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AMERICAN SPIDERS OF THE GENERA *AUDIFIA*,
EURYOPIS AND *DIPOENA* (ARANEAE: THERIDIIDAE)

By HERBERT W. LEVI

CAMBRIDGE, MASS., U.S.A.

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No. 2 — *American Spiders of the Genera Audifia, Euryopsis and Dipocna (Araneae: Theridiidae)*

BY HERBERT W. LEVI

Of the two species placed in *Audifia* by Keyserling in 1884 and Simon in 1894, no specimens other than the female types have been found. Our knowledge of *Audifia* is so limited that we do not even know whether the two species are close to *Euryopsis* and *Dipocna*, as is suggested by the presence of four seminal receptacles (Figs. 1, 5).

Dipocna and *Euryopsis* are believed to be mainly ant feeders. It is not known how *Dipocna* use their short chelicerae and specialized, flat, saber-like fangs (Levi and Levi, 1962). Some *Dipocna* live on vegetation, others on the ground in debris, making very little use of silk. Although large collections are available from South America, almost none come with information on habitat or habits.

Dipocna and *Euryopsis* may represent a separate line in theridiid evolution; all females except a few of *Euryopsis* have four seminal receptacles. While related species in theridiids generally have similar coloration, species of *Dipocna* often differ far more in coloration than in genitalic structure. A *Dipocna* key has been constructed, based mainly on coloration; it should be used with caution. Little is known of geographic variation of coloration. Related species differ not only in color, but also sometimes in shape of the abdomen; it may be suboval, triangular, wider than long, or heart-shaped. *Dipocna conica*, with a cone-shaped abdomen (Fig. 143), is close to *D. atlantica* with a subspherical abdomen (Fig. 150). In the majority of *Dipocna* species the carapace of the male is swollen, grooved, or has become a curiously high cylinder with a pattern of grooves on the dorsum. In only a few *Dipocna* species, mostly nearctic, does the male carapace resemble that of the female.

Although large collections of South American *Dipocna* were available, it has to be concluded that these are rare spiders, spotty in distribution. Judging by the occurrence of a new species of *Dipocna* in almost every collection of South American theridiids, our information on the number of species must be very incomplete, and we can expect to find several hundred additional undescribed species of *Dipocna* from tropical South America.

Numerous species are known only from the types, even from such well-collected places as the Panama Canal Zone. Only in Chile is the *Dipocna* fauna limited: only two rare species have been found in the large collections available. Little is known of Argentine *Dipocna*. Most species are found in hotter parts of South America. Not until Dr. Chickering started to work on Panamanian *Dipocna* was the wealth of species recognized. Keyserling, misled by the triangular abdomen of many species, placed such species erroneously into *Euryopsis*. These are here transferred to *Dipocna*.

Many species may be endemic or very limited in distribution. Only one species, *D. alta*, is thought to be cosmotropical. One species (*D. prona*) is holaretic in distribution (Map 2).

Unlike *Dipocna*, most species of *Euryopsis* are found in the north temperate regions. One species, *E. taczanowskii*, may be cosmotropical (Map 1).

The most important work on American *Dipocna* is that of Chickering (1943, 1948). My own papers (1953, 1954) have illustrated and described North American species. Chickering's species have here been re-illustrated, and the internal female genitalia, often of diagnostic importance, are shown here for the first time. It was difficult, however, to study the duets of some unique females without removing the epigynum, and this was not done. Another problem was the accumulated debris between various sclerites in the distal end of the palpal bulb. The debris may have come from the disintegration of corks but often it proved impossible to remove from unique type specimens.

I would like to thank the following for making it possible to examine types: Prof. M. Birabén of the Museo de la Plata; Dr. G. Owen Evans, Mr. K. H. Hyatt, Mr. D. Clark of the British Museum (Natural History); Mr. J. Prószyński of the Polish Academy of Sciences; Prof. M. Vachon of the Muséum National d'Histoire Naturelle, Paris; Prof. G. C. Varley of the Hope Department of Entomology, Oxford University; Dr. P. E. Vanzolini and Mr. P. De Biasi, Secretaria da Agricultura, São Paulo; and Profs. G. Wharton and J. N. Knull of Ohio State University. The study would have been impossible without the large collections supplied by the following people: Prof. A. M. Chickering, whose specimens are now housed in the Museum of Comparative Zoology; Dr. W. J. Gertsch from the American Museum of Natural History (AMNH); and Prof. M. Vachon from the unsorted theridiids of the Simon collection in the Muséum

National d'Histoire Naturelle, Paris (MNHN). Mrs. D. Frizzell (Dr. H. Exline) loaned specimens from her personal collection, and with Dr. E. S. Ross, helped to obtain specimens from the California Academy of Sciences (CAS). In addition, Mrs. Frizzell helped with advice on editorial matters. Additional specimens were made available by Mr. R. Dreisbach of Midland, Michigan; Dr. R. X. Schick of San Francisco; Dr. R. D. Barnes of Gettysburg; Dr. J. Cooreman and Mr. J. Kekenbosch of the Institut Royal des Sciences Naturelle, Brussels (ISNB); Dr. O. Kraus of the Senckenberg Museum, Frankfurt am Main (SMF); and Dr. R. V. Chamberlin of the University of Utah (UU).

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AUDIFIA Keyserling

Audifia Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 209.

Type species by monotypy *A. laevithorax* Keyserling.

Diagnosis. *Audifia* differs from *Euryopis* and *Dipocna* by having an elongate carapace (Fig. 3) (Levi and Levi, 1962).

Comment. The relationship of *Audifia* to other theridiid genera remains unknown as long as no male specimens are available. Both species come from South America.

AUDIFIA LAEVITHORAX Keyserling

Figures 1-4

Audifia laevithorax Keyserling, 1884, *op. cit.*, 2(1): 210, pl. 10, fig. 126, ♀.

Female type from Para [Belém, Pará, Brazil] in the Muséum National d'Histoire Naturelle, Paris, examined.

AUDIFIA SEMIGRANOSA Simon

Figures 5, 6

Audifia semigranosa Simon, 1894, Histoire Naturelles des Araignées, 1: 526, figs. 533-535, nom. nudum; 1895, Ann. Soc. Ent. France, p. 132. Female type from Tefé [Tefé], Amazonas, Brazil in the Muséum National d'Histoire Naturelle, Paris, examined.

EURYOPIS Menge

Euryopis Menge 1868, *Shrift. naturf. Gesell. Danzig, n.s.*, 2: 174. Type species designated by Thorell, 1869, *On European Spiders*, p. 96, *E. flavomaculata* (C. L. Koch).

Diagnosis. *Euryopis* usually lacks the two setae in the position of the colulus, that are always present in *Dipoena*. In addition the *Euryopis* palpus lacks a radix and the median apophysis is broadly attached to the bulb, only rarely having a seam. The abdomen is often triangular, as it is in some species of *Dipoena*. The eye region of the carapace is generally small (except *E. taczanowskii*) compared to that of the *Dipoena* species. Only rarely is the shape of the male carapace very different from that of the female (*E. quinquemaculata*), as is common in *Dipoena* (Levi and Levi, 1962).

Distribution. Most species of *Euryopis* are in the north temperate areas; few species in South America. *Euryopis taczanowskii* may be a cosmotropical species (Map 1).

Comments. A puzzling problem is the relationship of the western United States *E. funcbris* group of species. It is almost certain that the splitting of this group into numerous species was an error. While it is possible that *E. pepini* Levi, 1954 and *E. coki* Levi, 1954 might be separate species, the others are probably not, although there might be two polytypic species *E. lineatipes* O. P.-Cambridge, 1893 from Alberta to Panama and *E. californica* Banks, 1904 from California to the Gulf coast of Texas. Evidence for my opinion comes from the inability to place more recently collected specimens from the central Rocky Mountains into the described species. The possibility is small that all these recently collected and variable specimens belong to different species. It would be worthwhile to rework this group of *Euryopis* as soon as additional specimens are available and when we know more about their habits. Which of the groups are sympatric? Do sympatric species occur in the same areas and habitats? Do any populations interbreed? Unfortunately, the species are not common.

The following species of *Euryopis* have been transferred to *Dipoena*: *Euryopis longiventris* Simon; *E. lutca* Keyserling = *D. alta* (Keyserling); *E. maculata* Keyserling = *D. hortonii* Chickering; *E. pumicata* Keyserling; *E. pusilla* Keyserling; *E. variabilis* Keyserling.

Micryphantes gracilis Holmberg, 1872 (*An. Agr. Rep. Argentina*, 4: 14), the type of which is lost, has been placed by Mello-Leitão in *Euryopis*.

Map 1. Distributions of some species of *Euryopsis*.

In the key, references to "Fig." indicate illustrations in this paper, while "1954, fig." indicates that the illustration was published in my previous paper on *Euryopis*.

Key to American *Euryopis*

- 1a. Palpal cymbium extended beyond alveolus of cymbium (1954, figs. 1-4); epigynum with only two seminal receptacles (1954, figs. 12, 14; Fig. 7) or with four seminal receptacles and openings in sclerotized patch in epigynum (1954, fig. 15); northern United States and Canada 2
- 1b. Palpal cymbium not extended beyond alveolus; epigynum always with four seminal receptacles, not as in 1954, fig. 15 4
- 2a. Yellow carapace with a black patch covering clypeus, eye region, and cephalic area (1954, fig. 7); genitalia as in 1954, figs. 4, 11-14; Ontario, Virginia to Oregon *argentea* Emerton
- 2b. Carapace otherwise 3
- 3a. Carapace yellow, eyes on black spots (1954, fig. 6); genitalia as in 1954, figs. 6, 15, 16; Massachusetts, Virginia to Michigan *gertschi* Levi
- 3b. Carapace brown to black (1954, fig. 5); genitalia as in 1954, fig. 2; Figs. 7, 8; New Jersey to Minnesota *sauvagei* Levi
- 4a. Carapace wider than long, all eyes appearing large; width of eye region about two-thirds to three-fourths carapace width (1954, figs. 45, 46; Fig. 10); genitalia as in 1954, figs. 38-41, 47-52; Colorado, Florida to Argentina *taczanowskii* Keyserling
- 4b. Carapace rarely wider than long; width of eye region less than two-thirds (usually less than half) carapace width 5
- 5a. Abdomen narrow, length one and one-half times width; red-brown with five white spots as in Figure 16; genitalia as in Figures 13-15; New York to Texas *quinquemaculata* Banks
- 5b. Abdomen usually subtriangular and wider; coloration and genitalia otherwise 6
- 6a. Abdomen subtriangular; posterior edge with a V-shaped silvery to yellow mark (1954, figs. 129-131) or a triangular gray mark surrounded by silvery border (1954, fig. 132); genitalia as in 1954, figs. 53-64, figs. 83-119; southern Canada to Panama; (*funeris* group) 7
- 6b. Abdomen, if subtriangular, colored otherwise 9
- 7a. Palpal conductor of male without elbow (1954, figs. 53, 54); anterior seminal receptacles more heavily sclerotized than posterior (1954, fig. 84); Ontario, Quebec, eastern United States to North Dakota, Louisiana and Florida 8
- 7b. Palpal conductor of male with elbow (1954, figs. 55-64); posterior seminal receptacles more heavily sclerotized than anterior; Wisconsin, British Columbia to Panama *lineatipes* group
- 8a. Male less than 2.0 mm total length; palpal cymbium almost as wide as long (1954, fig. 54); female unknown, Florida *tarara* Levi

- 8b. Male more than 2.2 mm total length; width of palpal cymbium three-fourths its length (1954, fig. 53) *funbris* (Hentz)
- 9a. Females 10
- 9b. Males 18
- 10a. Abdomen with transverse bands (Fig. 38); epigynum as in Figure 37; Patagonia *tribulata* Simon
- 10b. Abdomen colored otherwise 11
- 11a. Opening of epigynum heavily bordered and circular (Fig. 35); south-eastern Brazil *notabila* (Keyserling)
- 11b. Opening otherwise 12
- 12a. Heavily bordered opening wider than long (Fig. 31); Panama to Peru *pickardi* sp. n.
- 12b. Epigynum otherwise 13
- 13a. A dark spot equal in size to opening and anterior to it (Fig. 18); southern Brazil *camis* sp. n.
- 13b. Epigynum otherwise 14
- 14a. Opening wider than long 15
- 14b. Opening longer than wide 17
- 15a. Ducts not visible anterior to opening (1954, fig. 25); posterior median eyes one and one-half diameters apart (1954, fig. 35); Florida *varis* sp. n.
- 15b. Ducts usually visible anterior to opening (1954, fig. 23; Fig. 23); posterior median eyes one diameter or less apart (1954, fig. 30) 16
- 16a. Usually orange; Utah, Oklahoma, California to Panama *spinigera* O. P.-Cambridge
- 16b. Blackish brown; Jamaica *cobrecensis* sp. n.
- 17a. Abdomen with symmetrically arranged dorsal light patches (1954, fig. 28); anterior seminal receptacles oval (1954, fig. 18); Texas, Arizona *mulaiki* Levi
- 17b. Abdomen even-colored or with small spots; anterior seminal receptacles spherical (1954, fig. 20); Massachusetts to Florida, Alabama *emertoni* Bryant
- 18a. Carapace punctate, without sclerotized plates on abdomen; southeastern Brazil *camis* sp. n.
- 18b. Carapace smooth, with sclerotized plates on abdomen 19
- 19a. Ventral, proximal duct loop short and flattened (Figs. 20, 21) 20
- 19b. Ventral, proximal loop large (Figs. 19, 26, 33) 21
- 20a. Palpus as in Figure 20; Argentina *spinifera* (Mello-Leitão)
- 20b. Palpus as in Figure 21; Oklahoma *weesei* sp. n.
- 21a. Dorsum with sclerotized plates (1954, fig. 27; Fig. 24) 22
- 21b. Dorsum without sclerotized plates, at most with four sclerotized spots 23
- 22a. Dorsum with one large sclerotized plate (Fig. 24); Jamaica *cobrecensis* sp. n.
- 22b. Dorsum with one large sclerotized plate and several smaller ones behind (1954, fig. 27); Texas, Arizona *mulaiki* Levi

- 23a. Ectal duct loop in palpus almost closed (Fig. 29); Utah, Oklahoma, California to Panama *spinigera* O. P.-Cambridge
 23b. Ectal duct loop open (Figs. 27, 28, 32) 24
 24a. Panama to Peru *pickardi* sp. n.
 24b. Eastern United States *emertoni* Bryant

EURYOPIS SAUKEA Levi

Figures 7-9; Map 1

Euryopis saukea Levi, 1954, Amer. Mus. Novitates, no. 1666: 7, ♂. Male holotype from 5 mi. S of Sauk City, Dane Co., Wisconsin, in the American Museum of Natural History.

Description. Female. Carapace dark brown, black anterior. Sternum black. Legs black except that coxae and proximal two-thirds of femora are white. Abdomen with irregular, triangular, black stripes on silvery dorsum (Fig. 9); sides black; venter between epigynum and spinnerets with silver line which continues anteriorly on each side. Eyes very small, like those of male, subequal in size. Anterior median eyes one and one-half diameters apart, a radius from laterals. Posterior median eyes little more than a diameter apart, one and one-half diameters from laterals. Total length 2.9 mm. Carapace 1.04 mm long, 0.98 mm wide. First patella and tibia 1.04 mm; second 1.05 mm; third 1.04 mm. Fourth femur 1.10 mm; patella and tibia 1.30 mm; metatarsus 1.04 mm; tarsus 0.50 mm.

Record. *Michigan.* Kalkaska Co.: 23 June 1957, ♀ (R. R. Dreisbach). Otsego Co.: 9 July 1959, ♀ (R. R. Dreisbach).

EURYOPIS VARIS sp. n.

Map 1

Euryopis variabilis,—Levi, 1954, *ibid.* p. 23, figs. 25, 26, 35, ♀. Not *Dipocna variabilis* (Keyserling).

Type. Female holotype from Eau Gallie, Brevard County, Florida, 24 Feb. 1936 in the Cornell University collection, currently kept at the American Museum of Natural History. The specific name is an arbitrary combination of letters.

This species was described in my previous paper but was erroneously thought to be the same as Keyserling's species.

EURYOPIS FUNEBRIS (Hentz)

?*Epeira limbata* Walckenaer, 1841, Histoire Naturelles des Insectes Aptères, 2: 81. The type is an unpublished manuscript illustration of Abbot. The specimen from which the drawing was made came from Burke County, Georgia.

- Theridion funcbre* Hentz, 1850, Jour. Boston Soc. Nat. Hist., 6: 277, pl. 9, fig. 11. Type from Alabama lost.
- Euryopis funcbris*, — Emerton, 1882, Trans. Connecticut Acad. Sci., 6: 27, pl. 5, fig. 6, ♀, ♂, and most authors.
- Euryopis limbata*, — Chamberlin and Ivie, 1944, Bull. Univ. Utah, biol. ser., 8(5): 42. Levi, 1954, Amer. Mus. Novitates, no. 1666: 26, figs. 53, 65, 69, 83, 84, 100, 120, 121, 129, ♀, ♂.

In 1944, Chamberlin and Ivie unfortunately synonymized the names of numerous common American species with those of Walckenaer. Although I followed Chamberlin and Ivie in my previous paper, I have since concluded that many of the synonymies are in error and that others may be arbitrary, as the Abbot drawings to which the names are applied are often not diagnostic (Levi and Levi, 1961). Even though Abbot's drawing bearing Walckenaer's name, *Epcira limbata*, may be the same species as *Euryopis funcbris* (Hentz), it is advisable to continue using the latter, long-established name.

EURYOPIS QUINQUEMACULATA Banks

Figures 11-16; Map 1

- Euryopis 5-maculata* Banks 1900, Canadian Ent., 32: 97. Female syntypes from Washington, D. C., in the Museum of Comparative Zoology, examined.
- Dipoena munda* Barrows and Ivie, 1942, Ohio Jour. Sci., 42: 20, figs. 1-5, ♀, ♂. Male holotype from Rockbridge, Ohio, at the Ohio State University, examined.
- Mufila texana* Bryant, 1949, Psyche, 56: 67, fig. 1, ♂. Male holotype from Dallas, Texas, in the Museum of Comparative Zoology. Not *Euryopis texana* Banks, 1908. NEW SYNONYMY.
- Euryopis quinquemaculata*, — Levi, 1954, Amer. Mus. Novitates, no. 1666: 46, figs. 133-136.
- Euryopis bryantae* Levi, 1954, *ibid.* p. 47, fig. 137, ♂. New name for *M. texana* Bryant. NEW SYNONYMY.

Note. The late Miss Bryant, who supplied me with a drawing of the male palpus, unfortunately made a mistake and mistook a shadow for a hook; thus the illustration (Levi, 1954, fig. 137) is in error. The type of *Mufila texana* was compared with that of *Dipoena munda* and no significant differences found.

Figures 14-16 were made from the type of *E. quinquemaculata*, Figures 11, 12 from the type of *Dipoena munda*, and Figure 13 from the type of *Mufila texana*.

Distribution. New York, Ohio, Georgia to Texas (Map 1).

EURYOPIS TACZANOWSKII Keyserling

Figure 10; Map 1

- Phycus brevis* O. P.-Cambridge, 1870 [1871], Proc. Zool. Soc. London, p. 742. Juvenile holotype from Ceylon in the Hope Department of Entomology, Oxford University, examined.
- Euryopsis taczanowskii* Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 47, pl. 12, fig. 160, ♀. Female holotype from [Tumbes], Peru, in the Polish Academy of Sciences, Warsaw, examined.
- Euryopsis floricola* Keyserling, 1886, *op. cit.*, 2(2): 261, pl. 21, fig. 309, ♀. Female holotype from Blumenau, [Brazil], in the British Museum, examined. NEW SYNONYMY.
- Euryopsis nigripes* Banks, 1929, Bull. Mus. Comp. Zool., 69: 86. Female holotype from Mt. Hope, Panama Canal Zone in the Museum of Comparative Zoology, examined. — Levi, 1954, Am. Mus. Novitates, no. 1666: 24, figs. 38-52, ♀, ♂. NEW SYNONYMY.
- Euryopsis dentatus* Gertsch and Mulaik, 1936, Am. Mus. Novitates, no. 863: 6, figs. 10, 11, ♀, ♂. Male holotype from Monte Cristo, Texas, in the American Museum of Natural History. NEW SYNONYMY.
- Euryopsis rosascostai* Mello-Leitao, 1944, Rev. Mus. La Plata, n.s., 3: 325, fig. 6. Juvenile holotype from Punta Lara, Provincia de Buenos Aires, Argentina, in the Museo de la Plata, examined. NEW SYNONYMY.

It is possible that this widespread species is cosmopolitan. Unfortunately, O. P.-Cambridge's type from Ceylon is a juvenile and cannot be determined with certainty. A male collected from Hollandia and L. Sentani, New Guinea (Marios, Hart) may belong to this species; the conductor, however, shows differences. The genitalia have been illustrated in my previous paper (Levi, 1954).

Distribution. Utah, Florida, New Mexico to Argentina (Map 1).

Additional Records. *Utah.* Salt Lake Co.: Little Cottonwood Can., 1500 m, April 1961 (H. Levi, N. Causey). *Central America* (MNHN). *Panama Canal Zone.* Fort Sherman; near Pedro Miguel. *Brazil. Pernambuco:* Recife, ♂ (SMF).

EURYOPIS CAMIS sp. n.

Figures 17-19; Map 1

Type. Male holotype from Nova Tentonia, lat 27°11' S, long 52°23' W, Santa Catarina, Brazil, Nov. 1957 (F. Plaumann) in the Institut Royal des Sciences Naturelles de Belgique, Brussels. The specific name is an arbitrary combination of letters.

Description. Carapace dark brown, sternum brown, legs brown with some indication of darker rings in some specimens; coxae

white. Dorsum of abdomen dark brown with areas around muscle impressions lighter; venter much lighter, almost yellowish. Male carapace heavily sclerotized, finely punctate, quite high with a longitudinal fine black groove in thoracic region, almost one-quarter length of carapace. Sternum smooth. Female carapace low, smooth, without thoracic line. Clypeus fairly straight. Anterior median eyes slightly smaller than others, one and one-half diameters apart, a little less than a diameter from laterals. Posterior median eyes a little more than a diameter apart, a little less than a diameter from laterals. Abdomen of both sexes without scuta, somewhat sclerotized on dorsum, but borders of sclerotized region not sharply delimited. Total length of female 1.7 mm. Carapace 0.64 mm long; 0.52 mm wide; 0.28 mm high. First patella and tibia 0.50 mm; second 0.48 mm; third 0.52 mm. Fourth femur 0.52 mm; patella and tibia 0.70 mm; metatarsus 0.28 mm; tarsus 0.38 mm. Total length of male 1.8 mm. Carapace 0.84 mm long, 0.72 mm wide, 0.48 mm high in thoracic region. First patella and tibia 0.54 mm; second 0.52 mm; third 0.52 mm. Fourth femur 0.59 mm; patella and tibia 0.70 mm; metatarsus 0.34 mm; tarsus 0.36 mm.

Diagnosis. *Euryopsis canis* differs from *E. spinifera* in the tip of the embolus and in the different course of the ducts in the palpus (Fig. 19). It differs from *E. pickardi* by the oval posterior pair of seminal receptacles (Fig. 17) and by the male lacking sclerotized plates on the abdomen.

Records. Three ♀ paratypes collected with type; 1 ♀, 1 ♂, paratypes, August 1957 from type locality (ISNB).

EURYOPSIS SPINIFERA (Mello-Leitão), new combination

Figure 20; Map 1

Acanthomysmena spinifera Mello-Leitão, 1944, Rev. Mus. La Plata, n.s., 3: 324, fig. 4. Male holotype from La Plata, Argentina, in the Museo de la Plata, examined.

Comments. This species is close to *E. spinigera* O. P.-Cambridge, found from the southwestern United States to Panama, and to *E. pickardi*, from Panama to Peru. The venter of the abdomen of *E. spinifera* has a series of sclerotized plates, and the structure of the palpus (Fig. 20) differs. It may be the male of *Dipocna micropunctata* Mello-Leitão, 1941, which has only two seminal receptacles and has tentatively been placed in *Pholcomma*.

Record. *Argentina.* Escoban y Tigre, paratype.

EURYOPIS WEESEI sp. n.

Figure 21; Map 1

Euryopis emertoni, — Banks, Newport and Bird, 1932, Univ. Oklahoma Biol. Surv., 4(1): 22. Not *E. emertoni* Bryant.

Type. Male holotype from Wichita National Forest, Comanche County, Oklahoma, 19 June 1928 (E. O. Weese) in the Museum of Comparative Zoology. This species is named after the eminent Oklahoma ecologist Prof. E. O. Weese, who collected the specimen.

Description. Carapace, legs, sternum orange. Abdomen orange-white with sclerotized areas darker orange. Dorsum of abdomen with some black pigment distributed in three transverse lines, a wide anterior line crossing the two anterior sclerotized discs, the two others narrow and just posterior to the posterior sclerotized discs. Also a median longitudinal line from anterior to third transverse line. Posterior of each end of third transverse line are the two dark gray pigment areas. Anterior median eyes slightly larger than others, one diameter apart, almost touching laterals. Posterior eyes their diameter apart. Dorsum of abdomen with four sclerotized discs and strong setae arising from sclerotized spots. Venter of abdomen with plates somewhat like those of *E. emertoni*. A small sclerotized triangular plate on each side of spinnerets. Total length 1.9 mm. Carapace 0.80 mm long, 0.72 mm wide. First patella and tibia 0.59 mm; second 0.63 mm; third 0.67 mm. Fourth femur 0.63 mm; patella and tibia 0.83 mm; metatarsus 0.41 mm; tarsus 0.41 mm.

Diagnosis. *Euryopis weesei* differs from *E. emertoni* and *E. spinigera* by having a relatively larger palpus and lacking the ectal loop of the duet in the tegulum (Fig. 21).

EURYOPIS COBRENSIS sp. n.

Figures 22-26; Map 1

Type. Male holotype from Rio Cobre Gorge, St. Catherine Par., Jamaica, British West Indies, Nov. 1957 (A. M. Chickering) in the Museum of Comparative Zoology.

Description. Carapace dark blackish brown. Sternum olive-brown. Legs brown, tarsi lighter and coxae light. Abdomen dark blackish brown, sclerotized areas more reddish. Abdomen of female almost all black. Eyes of male subequal in size, anterior medians of female slightly larger than others. Anterior median eyes about one diameter apart, touching laterals. Posterior

median eyes one diameter apart, two-thirds diameter from laterals. Total length of female 1.9 mm. Carapace 0.68 mm long, 0.64 mm wide. First patella and tibia 0.60 mm; second 0.60 mm; third 0.56 mm. Fourth femur 0.60 mm; patella and tibia 0.72 mm; metatarsus 0.35 mm; tarsus 0.32 mm. Total length of male 1.7 mm. Carapace 0.72 mm long, 0.62 wide. First patella and tibia 0.60 mm; second 0.52 mm; third 0.60 mm. Fourth femur 0.57 mm; patella and tibia 0.76 mm; metatarsus 0.36 mm; tarsus 0.26 mm.

Diagnosis. The seminal receptacles of the female are lightly sclerotized and punctate (Fig. 22). The opening of the epigynum is wider than that of *E. emertoni* (Fig. 23). The black color separates this species from most specimens of *E. emertoni* and *E. spinigera*. Unlike the other two species, the dorsum of the abdomen of the male has a large sclerotized shield (Fig. 24).

Records. Six ♀ paratypes collected with type.

EURYOPIS PICKARDI sp. n.

Figures 30-33; Map 1

Type. Male holotype from Boquete, Panama, 10-25 July 1939 (A. M. Chiekring) in the Museum of Comparative Zoology. The species is named after the great araneologist O. Pickard-Cambridge.

Description. Carapace dark brown. Sternum gray. Legs dark brown with coxae light. Abdomen black, sclerotized portions dark brown. General structure and sclerotized plates as in *E. spinigera* O. P.-Cambridge, but carapace slightly lower in male, and male has spines on abdomen slightly heavier and shorter. Eyes subequal in size. Anterior medians one and one-quarter diameters apart, one-quarter from laterals. Posterior eyes a little less than one diameter apart. Total length of female 1.7 mm. Carapace 0.71 mm long, 0.71 mm wide. First patella and tibia 0.65 mm; second 0.65 mm; third 0.68 mm. Fourth femur 0.65 mm; patella and tibia 0.84 mm; metatarsus 0.39 mm; tarsus 0.39 mm. Total length of male 2.0 mm. Carapace 0.78 mm long, 0.73 mm wide. First patella and tibia 0.75 mm; second 0.74 mm; third 0.74 mm. Fourth femur 0.71 mm; patella and tibia 0.92 mm; metatarsus 0.44 mm; tarsus 0.40 mm.

Diagnosis. The dark coloration readily separates this species from *E. spinigera*. The duets in the male palpus (Figs. 32, 33) run a different course. The female is separated from *E. spinigera* also by the darker coloration and by having a lip framing the opening of the epigynum (Fig. 31).

Comment. It is of interest that one of the commonest theridiid spiders in Central America, *E. spinigera*, has not been collected in Boquete, Panama, a locality in which *E. pickardi* is common. The two species are similar in size and may have the same habits.

Records. *Panama:* Boquete, 10-25 July 1939, ♀, ♂, paratypes: 1-8 Aug. 1950, ♀, ♂, paratypes; 4-11 Aug. 1954, ♀, ♂, paratypes (all A. M. Chickering). *Jamaica.* Hope Gardens, Kingston, ♂, Dec. 1954 (A. M. Nadler, AMNH). *Ecuador, Manabi:* Guápulo, May 1942 (H. E. Frizzell). *Peru. Piura:* Pariñas Valley, 24 km NE of Negritos, Oct. 1938 (H. E., D. L. Frizzell); N of Mallares, Río Chira, Dec. 1941 (H. E., D. L. Frizzell); Cabo Blanco, Sept. 1941 (R. Walls); Quiroz River, Dec. 1940 (H. E., D. L. Frizzell); Amotape Mts., Jan. 1939 (H. E., D. L. Frizzell).

EURYOPIS NOTABILA (Keyserling), new combination

Figures 34, 35

Theridium notabile Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 189, pl. 6, fig. 135, ♀. Female type from Serra Vermelha, Est. Rio de Janeiro, Brazil, in the British Museum, examined.

EURYOPIS TRIBULATA Simon

Figures 36-38

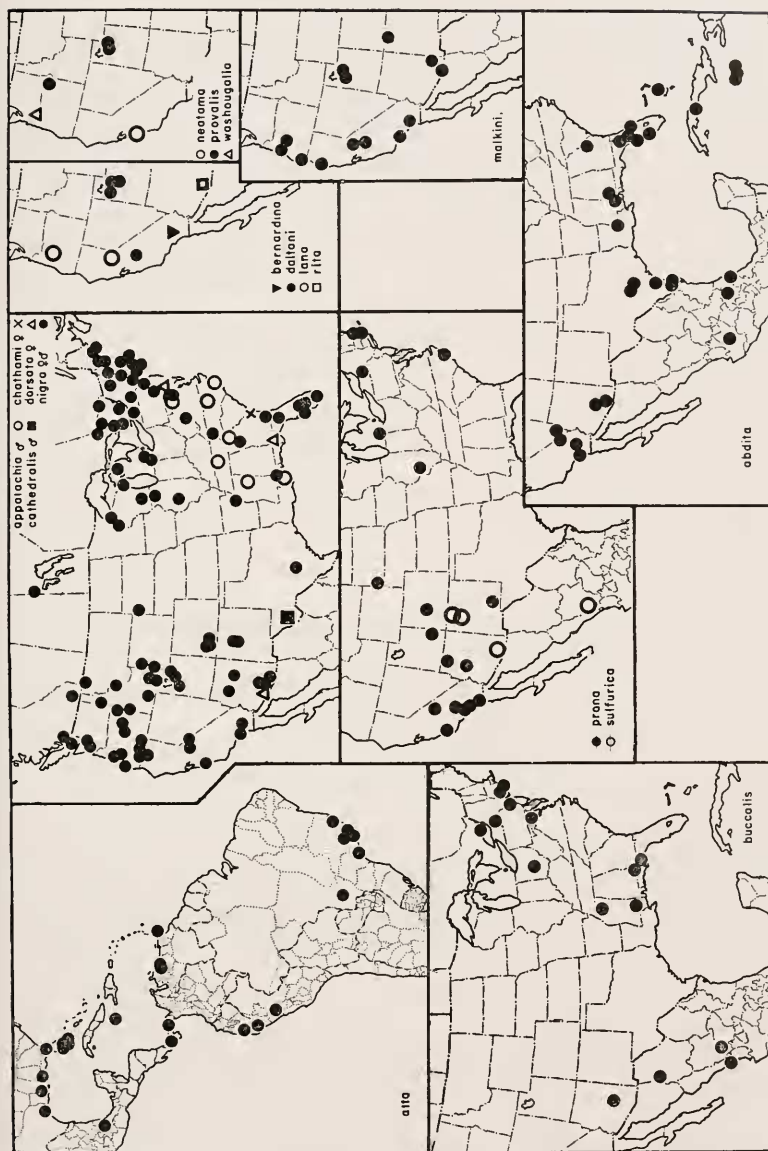
Euryopsis tribulata Simon, 1905, Boll. Musei Zool. Anat. Comp. Univ. Torino, 20(511): 6. Female type from Santa Cruz, Patagonia [Argentina], in the Muséum National d'Histoire Naturelle, Paris, examined.

DIPOENA Thorell

Dipocna Thorell, 1869, Nova Acta Reg. Soc. Sci. Uppsala (3)7: 91. Type species by original designation *Atea melanogaster* C. L. Koch 1837.

Diagnosis. *Dipocna* differs from most theridiid genera by having four seminal receptacles. *Dipocna* is distinct from *Euryopsis* by having a radix in the male palpus, or if the radix is absent, by having the median apophysis a separate sclerite. Unlike most *Euryopsis* species, *Dipocna* species always have two setae replacing colulus. The high carapace of males readily separates many *Dipocna* species, as such a high carapace is unknown in other genera.

Distribution. Most species of *Dipocna* are tropical; a number are found in the north (Map 2) and south temperate regions.



One species, *D. alta* Keyserling, may be cosmotropical. Another, *D. prona* (Menge), is holarctic in distribution.

Note. The numerous species of *Dipocna* are often difficult to separate by genitalia. It is interesting, however, that closely related species frequently have entirely different coloration and abdomen shape. Although coloration is of value in separating closely related species in one region, it may be a variable character. While in most theridiid genera the dorsal view of the internal female genitalia is diagnostic or helpful in diagnosing species, in *Dipocna* the ventral view (the cleared epigynum) is of greater value than the dorsal aspect, because the seminal receptacles in dorsal view hide the ducts.

Many species are represented by single individuals only or by a pair of specimens. This lack of material, as well as the diversity and complexity of palpal structure, made it difficult to examine palpal morphology, as is necessary in constructing keys to species. The keys, based mainly on coloration and shape, lead to groups of species usually easily separated by genitalia.

The following species of *Dipoena* have been transferred to other genera:

Dipocna calcarata Simon, 1897 = *Maymena calcarata* (Simon),

SYMPHYTOGNATHIDAE

Dipocna cubana Bryant, 1940 = *Thymoites pallidus* (Emerton),

NEW COMBINATION

Dipoena micratula Banks, 1909 = *Achaearana micratula* (Banks), NEW COMBINATION

Dipocna micropunctata Mello-Leitão, 1941 = *Pholcomma micropunctata* (Mello-Leitão). NEW COMBINATION

Dipocna nigerrima Petrunkevitch, 1911 = *Theridula nigerrima* (Petrunkevitch), NEW COMBINATION

Dipocna nigra Keyserling, 1886 = *Theridula nigerrima* (Petrunkevitch, 1911), NEW COMBINATION

Dipocna proba O. P.-Cambridge, 1899 = *Tidarren sisypoides* (Walekenaer, 1841), NEW SYNONYMY

Dipoena valmonti Simon, 1897 = *Chrosiothes valmonti* (Simon), NEW COMBINATION

The only species to remain unidentified is *D. pulchella* Petrunkevitch, 1925, from Panama. Despite lengthy description it could not be recognized by either Chickering or me. The type specimen cannot be found.

In the key, references to "Fig." indicate illustrations in this paper, while 1935a, fig." and "1953b, fig." indicate that the illustration was published in a previous paper on *Dipoena*.

Key to American Species of *Dipoena*

- 1a. Abdomen cone-shaped (Fig. 143); Panama, southcentral Brazil *conica* Chickering
- 1b. Abdomen not cone-shaped 2
- 2a. Legs with longitudinal black lines 3
- 2b. Legs banded or unicolor 5
- 3a. Dorsum of abdomen with a yellowish patch; sides black (Fig. 61); Panama to Paraguay *militaris* Chickering
- 3b. Abdomen otherwise 4
- 4a. Abdomen shiny brown but spinnerets yellow; genitalia as in Figures 225-227; Venezuela *tiro* sp. n.
- 4b. Abdomen black
(Figs. 219-222); Nicaragua to British Guiana *cornuta* Chickering
(Figs. 59-64); Central Brazil *militaris* Chickering
(Figs. 131-132); Peru *peruensis* sp. n.
(1953a, figs. 19, 20); Mexico *tecoja* Levi
- 5a. Abdomen with sclerotized spots (Fig. 302) and palpus as in Figure 303; southeastern Brazil *granulata* (Keyserling)
- 5b. Abdomen rarely with sclerotized spots and palpus otherwise 6
- 6a. Palpus with bulb suboval, having its only noticeable sclerites apical as in 1953b, figs. 11-13; Fig. 137; epigynum with a small subcircular posterior opening, anterior to which ducts are visible in V-shape (Figs. 136, 139, 142) 7
- 6b. Palpus and epigynum otherwise 9
- 7a. Epigynal opening partly overhung by an anterior sclerite (Fig. 139); palpus with conductor hook-shaped (1953b, figs. 11-13); southern United States to southern Brazil *alta* Keyserling
- 7b. Epigynal opening otherwise (Figs. 136, 142); palpus with conductor broad (Fig. 137) 8
- 8a. Epigynum opening bordered all around (Fig. 136); palpus as in Figure 137; Panama *perimenta* sp. n.
- 8b. Epigynum opening bordered on anterior and sides (Fig. 142); Nicaragua *waspuensis* sp. n.
- 9a. Carapace, legs yellow and abdomen yellow to gray without distinct marks except in darker orange 10
- 9b. Coloration otherwise, abdomen all dark gray, brown or black spotted, or patterned 18
- 10a. Abdomen with darker orange marks (Fig. 285); epigynum opening posterior (Fig. 287); Peru *tingo* sp. n.
- 10b. Abdomen without such marks; openings of epigynum indistinct 11
- 11a. Palpus bulb with ventral apophysis (Figs. 103, 104); epigynum as in Figure 101; southern Brazil *plaumanni* sp. n.
- 11b. Palpus and epigynum otherwise 12
- 12a. Palpus with two long, longitudinal distal teeth (Fig. 301); abdomen subtriangular; Peru *inca* sp. n.
- 12b. Palpus, abdomen otherwise 13

- 13a. Palpus with a prominent ventral hook-like embolus, its base containing winding duct (Fig. 69); female unknown; Panama . . . *anas* sp. n. 14
- 13b. Palpus otherwise 14
- 14a. Ectal apophysis of palpus crowned by three teeth (1953a, fig. 9); Mexico *luisi* Levi 15
- 14b. Ectal apophysis with two teeth at most 15
- 15a. Ectal apophysis with a median, mesally directed tooth (Fig. 110); Guatemala *crocea* (O. P.-Cambridge) 16
- 15b. Ectal apophysis otherwise 16
- 16a. Palpus wider than long (1953a, fig. 10); epigynum opening anterior to seminal receptacles (1953a, figs. 21, 22); Mexico *fortunata* Levi 17
- 16b. Palpus longer than wide; openings for epigynum near middle of epigynum 17
- 17a. Ectal palpal apophysis with distally pointing hook (1953b, fig. 78); epigynum with two dark spots at lateral ends of depressions (1953b, fig. 108); southern United States; Mexico; West Indies *abdita* Gertsch and Mulaik 17
- 17b. Ectal apophysis otherwise (1953a, fig. 11; Fig. 109); epigynum with two dark spots anterior to a curved anterior edge of depression (1953a, fig. 23); Costa Rica, Panama *josephus* Levi 18
- 18a. Abdomen gray, brown, or black without pattern, sometimes with a white spot above spinnerets 19
- 18b. Abdomen with a dorsal pattern or with marks or spots 27
- 19a. Abdomen with a distinct white spot above spinnerets 20
- 19b. Abdomen without white spot above spinnerets 21
- 20a. Abdomen higher than long (Figs. 228-231); Trinidad *trinidensis* sp. n. 21
- 20b. Abdomen longer than high 21
- (Figs. 66, 67); Jamaica *bellingeri* sp. n. 21
- (Figs. 268-271); Panama *orvillei* Chickering 21
- (Figs. 74-77); Panama *seclusa* Chickering 21
- 21a. Abdomen gray; epigynum as in 1953a, figs. 29, 30; Mexico *ocosingo* Levi 22
- 21b. Abdomen brown or black; epigynum otherwise 22
- 22a. Dorsum of abdomen shiny 23
- 22b. Dorsum of abdomen dull 24
- 23a. Thorax with a spine (Figs. 205-208); male unknown; Peru *spinithorax* (Keyserling) 23
- 23b. Thorax without spine 23
- (Fig. 244); southern Brazil *cordiformis* Keyserling 23
- (Figs. 169, 170); southeastern Brazil *obscura* Keyserling 23
- (Figs. 93-95); southeastern Brazil *opana* sp. n. 23
- (Figs. 87-89); southern Brazil *taeniatipes* Keyserling 23
- 24a. Abdomen subtriangular to triangular 24
- (Fig. 191-193); Panama, Trinidad *bryantae* Chickering 24
- (Figs. 163-168); Panama, Venezuela *donaldi* Chickering 24
- (Figs. 297-298); southern Brazil *itu* sp. n. 24
- 24b. Abdomen oval to spherical 25

- 25a. Epigynum with opening in a sclerotized spot (Fig. 264); palpus as in Figure 265; Costa Rica to Venezuela *banksi* Chickering
- 25b. Epigynum, palpus otherwise 26
- 26a. Epigynum with two indistinct dark spots (Fig. 58), southeastern Brazil
flavomaculata (Keyserling)
- 26b. Epigynum otherwise
- (1953b, figs. 23-29); southeastern U. S. *appalachia* Levi
- (1953b, figs. 85-86); southeastern U. S. *chathamii* Levi
- (1953b, figs. 87-88; Fig. 65); Maryland to ?Paraguay *dorsata* Muma
- (1953b, figs. 30-32, 37-46, 91-97); southern Canada, U. S.
nigra (Emerton)
- (1953a, figs. 5-8); southern Mexico *origanata* Levi
- (1953b, fig. 107); Arizona *rita* Levi
- (1953b, figs. 50-59, 105-106); U. S. *prona* (Menge)
- (1953a, figs. 19-20); southern Mexico *tecoja* Levi
- (1953b, figs. 72-76); Washington *washougalia* Levi
- 27a. Abdomen white with a black spot above spinnerets; palpus as in 1953a,
 fig. 3; Panama *chickeringi* Levi
- 27b. Abdomen and palpus otherwise 28
- 28a. Abdomen whitish with two spots above spinnerets
- (Figs. 122-124); Panama *mertoni* sp. n.
- (Figs. 70-73); Panama *proterva* Chickering
- 28b. Abdomen otherwise 29
- 29a. Abdomen dark gray to black with two longitudinal rows of white
 patches 30
- 29b. Abdomen colored otherwise 31
- 30a. Abdomen widest behind middle; western North America
- (Figs. 125-127); California *bernardino* sp. n.
- (1953b, figs. 65-71, 116-117); Utah *daltoni* Levi
- (1953b, figs. 112-113; Figs. 128-130); Oregon, California, ?Panama
lana Levi
- (1953b, figs. 8, 60-64, 110-111); Pacific Coast, southwestern U.S.
malkini Levi
- (1953b, figs. 7, 118-119); California *neotoma* Levi
- (1953b, figs. 114-115); Utah, Oregon *provalis* Levi
- 30b. Abdomen oval, widest in middle
- (Figs. 39-43); Panama, Venezuela *balboae* Chickering
- (Figs. 281-284); Panama *isthmia* Chickering
- 31a. Abdomen whitish; venter of abdomen black anterior to spinnerets 32
- 31b. Abdomen otherwise 33
- 32a. Abdomen longer than wide; epigynum as in Figure 118; Panama
venusta Chickering
- 32b. Abdomen wider than long, epigynum as in Figure 121; Peru
esra sp. n.
- 33a. Venter of abdomen black with two white patches anterior to pedicel
 (Fig. 288); epigynum as in Figure 291; Peru *pallisteri* sp. n.
- 33b. Abdomen, epigynum otherwise 34

- 34a. Abdomen purplish with two rows of light spots (Fig. 187); epigynum and palpus as in Figure 190; Panama to southern Brazil *rubellum* (Keyserling)
- 34b. Abdomen otherwise 35
- 35a. Venter of abdomen with a discrete white spot in black area (1953b, fig. 5); New Mexico *sulfurica* Levi
- 35b. Venter of abdomen otherwise 36
- 36a. Abdomen wider than long 37
- 36b. Abdomen longer than wide, sometimes spherical or subtriangular ... 39
- 37a. Carapace brown to black *hortoni* Chickering
(Figs. 250-253); Panama, Brazil *parki* Chickering
(Figs. 78-80); Panama *taeniatis* Keyserling
(Figs. 87-89); southern Brazil *woytzkowskii* sp. n.
(Figs. 147-149); Peru, ?Venezuela
- 37b. Carapace white or yellowish 38
- 38a. Clypeus with black marks *santacatarinae* sp. n.
(Figs. 194-198); southern Brazil *niteroi* sp. n.
(Figs. 181-182); southeastern Brazil *pacifica* Chickering
(Figs. 272-276); Jamaica, Panama
- 38b. Clypeus without black marks *augara* sp. n.
(Figs. 254-256); Venezuela *ira*, sp. n.
(Figs. 235-237); southern Brazil *standleyi* sp. n.
(Figs. 155-159); Panama
- 39a. A black band from clypeus to thoracic region; (Figs. 248-249); southeastern Brazil *sicki* sp. n.
- 39b. Coloration otherwise 40
- 40a. Abdomen dorsum black with a white band outlining a median black square and white lines radiating towards sides *atlantica* Chickering
(Figs. 150-154); Panama to Paraguay *keyserlingi* nom. nov.
(Figs. 242-243); southeastern Brazil *pusilla* (Keyserling)
(Figs. 160-162); southern Brazil
- 40b. Coloration otherwise 41
- 41a. Carapace white or yellow, without pigment 42
- 41b. Carapace gray-brown to black, pigmented 43
- 42a. Abdomen subtriangular or pointed behind *barro* sp. n.
(Figs. 232-234); Panama *duodecimpunctata* Chickering
(Figs. 238-241); Panama, Venezuela
- 42b. Abdomen suboval to spherical *anahuas* sp. n.
(Figs. 171-173); northern Mexico *bimini* sp. n.
(Figs. 199-204); Bahama Isl. *superba* Chickering
(Figs. 183-184); Mexico to Panama
- 43a. Female carapace highest in thoracic region *buccalis* Keyserling
(1953b, figs. 6, 16-18, 33-34, 98-101); eastern, southwestern U. S. to Mexico *copiosa* Levi
(1953a, figs. 14, 15, 27, 28); Costa Rica to Brazil
- 43b. Female carapace not elevated behind eyes 44

- 44a. United States and northern Mexico.
 (1953b, figs. 6, 16-18, 33-34, 98-101); eastern, southwestern U. S. . . .
buccalis Keyserling
 (1953b, figs. 19-22); Texas *cathedralis* Levi
- 44b. West Indies, Central and South America. 45
- 45a. Abdomen subtriangular or pointed behind.
 (Figs. 163-168); Panama, Venezuela. *donaldi* Chickering
 (Figs. 174-177); Mexico to Panama *insulana* Chickering
 (Figs. 114-115); Argentina *longiventris* (Simon)
 (Figs. 185-186); southern Brazil *variabilis* (Keyserling)
- 45b. Abdomen suboval to spherical. 46
- 46a. Dorsum of abdomen mottled in appearance and darker in longitudinal
 median band than on sides
 (Figs. 266-267); Panama *bequaerti* Chickering
 (Figs. 44-45); Panama *boquete* sp. n.
 (Figs. 46-52); Chile *chillana* sp. n.
 (Figs. 292-296); southern Brazil *foliata* Keyserling
 (Figs. 277-280); Jamaica *liguanea* sp. n.
 (Figs. 84-86); West Indies, Mato Grosso *morosa* Bryant
 (Figs. 53-55); Chile *ohigginsii* sp. n.
 (Figs. 178-180); Puerto Rico *puertoricensis* sp. n.
- 46b. Dorsum of abdomen otherwise 47
- 47a. Dorsum of abdomen with symmetrical white or light patches or lines . .
 (Figs. 81-83); Chiapas, Panama *catoni* Chickering
 (Figs. 174-177); Mexico to Panama *insulana* Chickering
 (Figs. 105-108); Venezuela, British Guiana *kuyuwini* sp. n.
 (Figs. 90-92); Amazon *olivenea* sp. n.
 (Figs. 209-218); Brazil *pumicata* (Keyserling)
 (Figs. 160-162); southern Brazil *pusilla* (Keyserling)
 (Figs. 96-98); Panama *zeteki* Chickering
- 47b. Dorsum of abdomen otherwise
 (Figs. 111-113); Bolivia *beni* sp. n.
 (Figs. 250-253); Panama, eastern Brazil *hortoni* Chickering
 (Figs. 257-258); Lesser Antilles *meckeli* Simon
 (Figs. 259-262); Panama *tropica* Chickering

DIPOENA NIGRA (Emerton)

Map 2

Steatoda nigra Emerton, 1882, Trans. Connecticut Acad. Sci., 6:21, pl. 4, fig. 4, ♀. Female syntypes from Portland, Maine, and Beverly and Holyoke, Massachusetts, in the Museum of Comparative Zoology.

Dipoenia nigra, — Banks, 1892, Proc. Acad. Nat. Sci. Philadelphia, p. 31. — Levi, 1953, Amer. Mus. Novitates, no. 1647: 21, figs. 30-32, 37-46, 91-97 ♀, ♂.

Dipoena parvula Banks, 1901, Proc. U.S. Natl. Mus., 23: 589, fig. 4, ♀.
Female holotype from Catalina Springs [?], Arizona, in the United States National Museum, examined. NEW SYNONYMY.

Distribution. Southern Canada and all parts of the United States.

Additional Records. *Arizona.* Cochise Co.: Upper Carr Can., Huachuca Mts. Pima Co.: Marana, in alfalfa (G. Butler). *California.* Mono Co.: Montgomery Can., July 1941 (W. M. Pearce). Riverside Co.: Idyllwild, July 1953 (W. J., J. W. Gertsch).

DIPOENA APPALACHIA Levi

Map 2

Dipoena appalachia Levi, 1953, Amer. Mus. Novitates, no. 1647: 19, figs. 23-29, ♀, ♂. Male holotype from Beaufort, North Carolina, in the American Museum of Natural History.

Note. The female of this species is unknown; it may have been confused with *D. nigra*.

Distribution. Southeastern states.

Additional Record. *North Carolina.* Durham Co.: Duke Forest, July 1953 (R. D. Barnes).

DIPOENA DORSATA Muma

Figure 65; Map 2

Dipoena dorsata Muma, 1944, Amer. Mus. Novitates, no. 1257: 6, fig. 8, ♀.
Female type from Churchville, Maryland, in the American Museum of Natural History. — Levi, 1953, *ibid.*, no. 1647: 17, figs. 87-88, ♀.

It is not certain that all the specimens examined belong to this species. The internal genitalia seem to be alike, but because of heavy pigment, they are difficult to see. A *Dipoena* from Paraguay has similar genitalia, but has a modified carapace, very high in the thoracic region, sloping down to the eyes. Though it is almost certainly a different species, it was not described as new because of lack of differential characters.

Distribution. Maryland, Florida, Arizona to ?Paraguay. (Only United States records are shown on Map 2.)

Additional Records. *Arizona.* Santa Cruz Co.: Madera Canyon, Santa Rita Mts. (W. J. Gertsch, AMNH). *Panama Canal Zone:* Summit (A. M. Chickering); Barro Colorado Isl. (A. M. Chickering). *Paraguay:* Taguararapa, Alto-Parana, doubtful determination (AMNH).

DIPOENA BUCCALIS Keyserling

Map 2

Dipocna buccalis Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 42, pl. 12, fig. 157, ♀. The syntypes came from "Philadelphia, Fortress Monroe and Atlantic City" collected by Marx. A specimen designated paratype and labelled as coming from Fort Monroe, Virginia, is in the United States National Museum.—Levi, 1953, Amer. Mus. Novitates, no. 1647: 27, figs. 6, 16-18, 33-34, 98-101, ♀, ♂.

Note. Southern females of this species have the carapace high in the center (1953b, fig. 101). It is very high in Mexican specimens and in the single female from Arizona. The Arizona specimen first recorded here has the epigynal depression quite narrow; however, the openings and the posterior sclerotized piece are in the usual position.

Distribution. Southern Ontario, eastern United States from Connecticut, Ohio to Alabama, Arizona and Sonora, Durango, Mexico (Map 2).

Additional Records. *Florida.* Leon Co.: Tallahassee, Aug. 1903 (A. P. Morse). *Ohio.* ?Franklin Co.: "Flint Ravine, 82° W 39° N Aug. 1922," ♀ (W. M. Barrows, UU). *Arizona.* Maricopa Co.: 8 mi. N of Roosevelt Dam, Apr. 1935, ♀ (W. Ivie, UU).

DIPOENA SULFURICA Levi

Map 2

Dipocna sulfurica Levi, 1953, Amer. Mus. Novitates, no. 1647: 29, figs. 4-5, 47-49, 83-84, 102-104. Male holotype from 10 mi. E of El Salto, Durango, Mexico, in the American Museum of Natural History.

Distribution. New Mexico, Arizona to Durango (Map 2).

Additional Records. *Arizona.* Pima Co.: Mt. Lemmon, Santa Catalina Mts., Sept. 1939, ♀ (R. H. Crandall).

DIPOENA PRONA (Menge)

Map 2

Pachydactylus pronus Menge, 1868, Schrift. naturf. Gesell. Danzig, 2: 177, pl. 33, fig. 80. Female type from Weichselmünde forest near Danzig.

Dipocna hamata Tullgren, 1949, Ent. Tidskrift, 70: 50, figs. 10, 11, ♂. Male holotype from St. Karlsö, Sweden, in the Natural History Museum, Stockholm.—Levi, 1953, Amer. Mus. Novitates, no. 1647: 30, figs. 50-59, 105-106, ♀, ♂.

Comment. Several letters were received from European colleagues after the publication of my previous *Dipoena* paper, telling me that *D. hamata* is a synonym of *D. prona* (Menge).

Natural History. A female and male specimen were found under boards in a meadow at 2900 m altitude in Colorado.

Distribution. Northern Europe and in all parts of the United States (Map 2).

Additional Record. Colorado. Gunnison Co.: 4 mi. S of Gothic, 5 June 1959, ♀, ♂ (H., L. Levi).

DIPOENA DALTONI Levi

Map 2

Dipoena daltoni Levi, 1953, Amer. Mus. Novitates, no. 1647: 35, figs. 65-71, 116-117, ♀, ♂. Female holotype from Dalton Creek, Fresno Co., California, 1500 m alt., in the American Museum of Natural History.

Natural History. Specimens of this species were collected by sifting lombardy poplar (*Populus nigra* Linnaeus) litter in Grantsville, Utah, in April, 1961.

Distribution. Utah, California (Map 2).

Additional Record. Utah. Tooele Co.: Grantsville, April, 1961 (H. Levi).

DIPOENA MALKINI Levi

Map 2

Dipoena malkini Levi, 1953, Amer. Mus. Novitates, no. 1647: 33, figs. 8, 60-64, 110-111, ♀, ♂. Male holotype from Rogue River, Curry County, Oregon, in the American Museum of Natural History.

Distribution. Western United States; Utah, Oregon to New Mexico and California (Map 2).

Additional Records. California. Humboldt Co.: Holmes, Avenue of Giants Redwood Forest. ♀. Ventura Co.: 15 mi. S of Oxnard, July 1953. ♀ (W. J., J. W. Gertsch).

DIPOENA LANA Levi

Figures 128-130; Map 2

Dipoena lana Levi, 1953, Amer. Mus. Novitates, no. 1647: 36, figs. 112-113, ♀. Female holotype from Lane County, Oregon, in the American Museum of Natural History.

Specimens from Panama may belong to this species although slightly smaller, lack spots on the abdomen, and have slightly

different eye arrangement, the posterior medians being slightly closer to each other than to laterals. The Panamanian record is not included on the map.

Distribution. Oregon, California (Map 2).

Records. Panama: Boquete, Aug. 1950 (A. M. Chickering).

DIPOENA BERNARDINO sp. n.

Figures 125-127; Map 2

Type. Female holotype from Old Baldy, San Bernardino Mountains, San Bernardino County, California, 7 May 1936, in the Cornell University Collection and at present stored in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs yellow. Dorsum of abdomen gray with several paired white spots (Fig. 125); venter lighter gray. Carapace low. Eyes subequal in size. Anterior median eyes a little more than their diameter apart, almost touching laterals. Posterior eyes two-thirds diameter apart. Abdomen widest posteriorly. Total length 2.2 mm. Carapace 0.84 mm long, 0.73 mm wide, 0.39 mm high. First patella and tibia 0.91 mm; second 0.78 mm; third 0.73 mm. Fourth femur 0.95 mm; patella and tibia 1.10 mm; metatarsus 0.62 mm; tarsus 0.39 mm.

Diagnosis. This species differs from *D. daltoni* by the shape of the epigynum (Fig. 127) and the internal genitalia (Fig. 126).

DIPOENA ABDITA Gertsch and Mulaik

Map 2

Dipoenia abdita Gertsch and Mulaik 1936, Amer. Mus. Novitates, no. 863: 6, fig. 28, ♀. Female holotype from Edinburg, Texas, in the American Museum of Natural History.—Levi, 1953, Amer. Mus. Novitates, no. 1647: 37, figs. 77-82, 108-109, ♀, ♂.

Distribution. Gulf States to California, South to Veracruz, Lesser Antilles (Map 2).

Additional Records. California. Inyo Co.: Chicago Valley, Resting Springs (J. N. Belkin). Riverside Co.: Coachella Valley (R. X. Schick). Cuba. Villas: Soledad (C. T. Parsons). Jamaica: Mona, St. Andrew Par.; 1 mi. E of Golden Grove, St. Thomas Par.; Christiana, Manchester Par.

DIPOENA JOSEPHUS Levi

Figure 109

Dipoena josephus Levi, 1953, Amer. Mus. Novitates, no. 1639: 6, figs. 11-13, 23-24, ♀, ♂. Male holotype from San José, Costa Rica, in the American Museum of Natural History.

Figure 109 was drawn at a slightly different angle than the previous illustration (1953, fig. 11).

Additional Records. *Costa Rica.* Turrialba (B. Malkin, AMNH). *Panama:* Boquete; Barro Colorado Isl. (A. M. Chickering).

DIPOENA CROCEA (O. P.-Cambridge)

Figure 110

Achaea crocea O. P.-Cambridge, 1896, Biologia Centrali-Americana. Araneidea, 1: 210, pl. 26, fig. 11, ♂. Male holotype from Cubilguitz, [18 km N of Cobán, Alta Verapaz], Guatemala, in the British Museum, examined.

Dipoena crocea, — Levi, 1953, Amer. Mus. Novitates, no. 1639: 8.

This species is close to *D. abdita*. The carapace of the male is low and the whole spider is yellow.

DIPOENA TECOJA Levi

Dipoena tecoja Levi, 1953, Amer. Mus. Novitates, no. 1639: 10, figs. 19, 20, ♀. Female [not male] holotype from Tecoja, Chiapas, Mexico, in the American Museum of Natural History.

DIPOENA BALBOAE Chickering

Figures 39-43

Dipoena balboae Chickering, 1943, Trans. Amer. Micros. Soc., 62: 334, figs. 6-9, ♀, ♂. Male holotype from Balboa, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Comments. The palpus of the type is slightly expanded (Fig. 43). This species is very similar to *D. nigra* and may be the same. It is lighter in coloration (Fig. 39), and the male has shorter first legs. The genitalic differences are a longer cone-shaped base of the embolus (Fig. 43) and shorter female connecting ducts (Fig. 40). The base of the embolus of *D. nigra* is spherical (1953b, figs. 30-32).

Additional Records. *Panama:* Arraiján, ♀ (A. M. Chickering). *Venezuela.* Carabobo: Valencia, ♂ (MNHN).

DIPOENA BOQUETE sp. n.

Figures 44-45

Type. Male holotype from Boquete, Panama, 1-8 Aug. 1950 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace black, legs yellow. Dorsum of abdomen spotted black and white (Fig. 44); venter gray. Carapace slightly higher behind eyes. Diameter of anterior median eyes almost twice that of other eyes. Anterior median eyes their diameter apart, touching laterals. Posterior median eyes their diameter apart, their radius from laterals. Tooth length 1.6 mm. Carapace 0.65 mm long, 0.62 mm wide, 0.52 mm high. First femur 0.68 mm; patella and tibia 0.72 mm; metatarsus 0.43 mm; tarsus 0.27 mm. Second patella and tibia 0.59 mm; third 0.52 mm; fourth 0.69 mm.

Diagnosis. The winding of the palpal duct, and the shape of conductor and embolus (Fig. 45) separate this species from *D. balboae*. Like *D. balboae*, *D. boquete* belongs to the *D. nigra* group, but unlike others of this group, the abdomen is spotted (Fig. 44).

DIPOENA CHILLANA sp. n.

Figures 46-52

Type. Male holotype from Fundo Malcho, Cordillera Parral, Linares, Chile, Dec. 1957 (L. Peña) in the Institut Royal des Sciences Naturelles de Belgique, Brussels. The species is named after Sierra Chillan, a place of its occurrence.

Description. Carapace, sternum, legs dusky brown. Dorsum of abdomen black with gray and white pattern (Fig. 47); venter dark gray without pattern or marks. One specimen almost lacks the pattern and white pigment. Carapace of male low (Fig. 46). Eyes subequal in size or anterior median eyes slightly smaller than others. Anterior medians a little more than their diameter apart, almost touching laterals. Posterior medians their radius apart, one diameter from laterals. Total length of females 1.9-3.2 mm. Total length of one female 1.9 mm. Carapace 0.85 mm long, 0.75 mm wide. First patella and tibia 1.04 mm; second 0.75 mm; third 0.65 mm. Fourth femur 0.91 mm; patella and tibia 1.04 mm; metatarsus 0.64 mm; tarsus 0.35 mm. Total length of male 1.5 mm. Carapace 0.69 mm long, 0.65 mm wide. First femur 1.17 mm; patella and tibia 1.06 mm; metatarsus 0.80 mm;

tarsus 0.37 mm. Second patella and tibia 0.78 mm; third 0.58 mm.

Diagnosis. This species is close to *Dipocna nigra* (Emerton). It differs by having a dorsal abdominal pattern, a loop of the embolus at the distal tip of the palpus (Fig. 52), and a different epigynum. The epigynum is quite indistinct and is variable in appearance. It is usually covered by some exudate that, when removed, may take some of the integument along with it. Although the epigynum is variable, the center is usually the lightest portion; this light portion is in a slight depression. When cleared in clove oil the sclerotized ends of the ducts show up (Figs. 48, 50), and all specimens look alike.

Records. *Chile. Linares:* Fundo Malcho, Cord. Parral, Dec. 1957, Feb. 1958, March 1958 ♀, ♂ paratypes (L. Peña, ISNB). *Nuble:* Sierra de Chillán, ♀ (?Germain, MNHN).

DIPOENA OHIGGINSI sp. n.

Figures 53-55

Type. Female holotype from La Leonera, 800-1000 m, 30-40 km NE of Rancagua, O'Higgins, Chile, 28 Dec. 1954 (L. Peña), in the Institut Royal des Sciences Naturelles de Belgique, Brussels. This species is named after Bernardo O'Higgins, first president of the Chilean republic.

Description. Carapace, legs, sternum brown. Dorsum of abdomen grayish brown with an indistinct pattern (Fig. 53). Venter of abdomen lighter brown. Anterior median eyes slightly larger than others. Posterior median eyes oval, their longer diameter at right angles to carapace axis. Anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes their radius apart, their longer diameter from laterals. Total length 3.0 mm. Carapace 1.05 mm long, 0.90 mm wide. First femur 1.40 mm; patella and tibia 1.39 mm; metatarsus 1.01 mm; tarsus 0.44 mm. Second patella and tibia 1.05 mm; third 0.71 mm; fourth 1.26 mm.

Diagnosis. *Dipocna ohigginsii* can be separated from *D. chiliana*, the only other Chilean *Dipocna*, by the very large bordered depression of the epigynum (Fig. 55).

DIPOENA FLAVOMACULATA (Keyserling)

Figures 57-58

Heribertus flavomaculatus Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 223, pl. 9, fig. 164, ♀. Female holotype from Serra Vermelha, [Est. Rio de Janeiro], Brazil, in the British Museum, examined.

Umfla flavomaculata, — Petrunkevitch, 1911, Bull. Amer. Mus. Nat. Hist., 29: 214.

The cephalothorax is red-brown, the abdomen black with lighter depressions.

DIPOENA MILITARIS Chickering

Figures 59-64

? *Dipoena striatipes* Simon, 1894, Histoire Naturelle des Araignées, 1: 564, fig. 574, ♂, *nomen nudum*.

Dipoena militaris Chickering, 1943, Trans. Amer. Micros. Soc., 62: 358, figs. 42, 43, ♀. Female holotype from Randolph Field, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Dipoena matogrossensis Soares and Camargo, 1948, Bol. Mus. Paraense E. Goeldi, 10: 366, figs. 19, 20, ♂. Male holotype from Chavantina, Mato Grosso, Brazil, in the Departamento de Zoologia da Secretaria da Agricultura do Estado de São Paulo, examined. NEW SYNONYMY.

Carapace dark brown, sternum dusky, legs yellow with a fine black prolateral line. Abdomen in some specimens with sides black (Fig. 61), a dusky median dorsal band and venter dark gray.

Note. Simon (1894) figured the lateral view of a male carapace and chelicerae of a species called *Dipoena striatipes*; no locality is given. In the Muséum National d'Histoire Naturelle is a female specimen of *D. militaris* Chickering from Rio de Janeiro, Brazil, marked in Simon's handwriting "*Dip. striatipes*"; however the usual "E. S." of described species is missing.

Soares and Camargo's specimen has a carapace like that of the Venezuelan male illustrated (Figs. 59, 60). The only palpus is mounted on a slide, transparent and flattened. However, the embolus is the same shape as that of other specimens.

Distribution. Panama to Paraguay.

Additional Records. *Panama Canal Zone:* Forest Reserve, ♀ (A. M. Chickering). *Venezuela.* "Caracas; San Estebán," ♀ (E. Simon, MNHN). *Brazil:* Rio de Janeiro, ♀ (Germain, MNHN). *Paraguay:* Mato Grosso, ♀ (MNHN).

DIPOENA BELLINGERI sp. n.

Figures 66, 67

Type. Female holotype from west side John Crow Mountains, St. Thomas Parish, 900 m alt., Jamaica, British West Indies, 22 June 1956 (P. F. Bellinger), in the Museum of Comparative

Zoology. The species is named after the collector.

Description. Carapace, sternum dark brown. Coxae and proximal half of third and fourth femora yellow-white, other leg segments dark brown with indistinct lighter rings. Abdomen black with a short white stripe above spinnerets. Eyes subequal in size. Anterior median eyes less than their diameter apart, their radius from laterals. Posterior eyes their radius apart. Total length 1.6 mm. Carapace 0.66 mm long, 0.61 mm wide. First patella and tibia 0.55 mm; second 0.52 mm; third 0.52 mm. Fourth femur 0.62 mm; patella and tibia 0.65 mm; metatarsus 0.36 mm; tarsus 0.29 mm.

Diagnosis. The epigynum (Fig. 67) of *D. bellingeri* is quite indistinct: it is heavily pigmented, and examinations of the internal genitalia thus is difficult. In no other species known from the West Indies does the epigynum have a depression posterior to a lip.

Natural History. The specimen was collected from moss and wet leaf litter.

DIPOENA PROTERVA Chickering

Figures 70-73

Dipoena proterva Chickering, 1943, Trans. Amer. Micros. Soc., 62: 371, figs. 60-63, ♀, ♂. Male holotype from Barro Colorado Isl., Panama Canal Zone, in the Museum of Comparative Zoology, examined.

This species is yellow-white; clypeus with a black line. Abdomen white with a dark spot on each side of spinnerets and dark on venter anterior to pedicel.

DIPOENA SECLUSA Chickering

Figures 74-77

Dipoena seclusa Chickering, 1948, Trans. Amer. Micros. Soc., 67: 335, figs. 4-7, ♀, ♂. Male holotype from Canal Zone Biological Area, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace dark brown, sternum gray, legs brown; abdomen black with a white spot above spinnerets; venter light.

DIPOENA PARKI Chickering

Figures 78-80

Dipoena parki Chickering, 1943, Trans. Amer. Micros. Soc., 62: 366, figs. 52, 53, ♀. Female holotype from Barro Colorado Isl., Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace dark brown, cephalic area light brown, legs yellowish. Abdomen gray with black and white marks (Fig. 78); venter black anterior to pedicel, otherwise gray; black on each side of spinnerets.

DIPOENA EATONI Chickering

Figures 81-83

Dipoena eatoni Chickering, 1943, Trans. Amer. Micros. Soc., 62: 350, figs. 30, 31, ♀. Female holotype from El Valle, Panama, in the Museum of Comparative Zoology, examined. — Levi, 1953, Amer. Mus. Novitates, no. 1639: 3.

This species is almost black, but has some small light spots on dorsum of the abdomen. The course of the ducts and posterior seminal receptacles is uncertain (Fig. 82).

Distribution. Chiapas; Panama.

DIPOENA ANAS sp. n.

Figures 68, 69

Type. Male holotype from Boquete, Panama, 4-11 August 1954 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is an arbitrary combination of letters.

Description. Carapace yellow, eye region dusky. Sternum slightly dusky. Legs yellow. Abdomen dusky gray but spinnerets yellow. Carapace quite high with a semicircular depression (Fig. 68). Anterior median eyes much larger than others, their diameter apart and almost touching laterals. Posterior median eyes one-third their diameter apart, one and one-half diameters from laterals. Total length 1.7 mm. Carapace 0.78 mm long, 0.69 mm wide, 0.53 mm high. First patella and tibia 0.80 mm; second 0.63 mm; third 0.55 mm. Fourth femur 0.75 mm; patella and tibia 0.80 mm; metatarsus 0.47 mm; tarsus 0.38 mm.

Diagnosis. The winding of the duct in the embolus base (Fig. 69) separates this species from *D. atlantica* and others.

DIPOENA MOROSA Bryant

Figures 84-86

Dipoena morosa Bryant, 1948, Bull. Mus. Comp. Zool., 100: 376, figs. 50, 52, 53, ♂. Male holotype from San José de la Matas, Dominican Republic, in the Museum of Comparative Zoology.

Note. Carapace dark brown. Legs pale with darker rings on distal ends of femora and tibiae. Abdomen brown; covered with

white spots. Both palpi of the type specimen seem lost. The drawing (Fig. 85) was made from a sketch made of the type in 1955. Figures 84, 86 are from a Brazilian specimen.

Record. Brazil. Mato Grosso: Corumbá, 8 Jan. 1959 (A. M. Nadler, AMNH).

DIPOENA TAENIATIPES Keyserling

Figures 87-89

Dipoena taeniatipes Keyserling, 1891, *Die Spinnen Amerikas*, Brasilianische Spinnen, 3: 224, pl. 9, fig. 165, ♀. Female holotype from Rio Grande do Sul, Brazil, in the British Museum, examined.

The abdomen of this species is heart-shaped (Fig. 87), sometimes all shiny black, sometimes with lighter areas.

Record. Brazil. Santa Catarina: Nova Teutonia, lat 27°11' S, long 52°23' W (F. Plaumann, SMF).

DIPOENA OLIVENCA sp. n.

Figures 90-92

Type. Female holotype from São Paulo de Olivença, Amazonas, Brazil (M. de Mathau), in the Muséum National d'Histoire Naturelle, Paris (no. 9164). The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs, yellow-brown. Dorsum of abdomen dark gray with some areas lacking pigment (Fig. 90); venter yellowish without pigment. Anterior median eyes larger than others, two-thirds diameter apart, almost touching laterals. Posterior median eyes two-thirds diameter apart, one diameter from laterals. Total length 2.9 mm. Carapace 1.04 mm long, 0.83 mm wide. First patella and tibia, 1.06 mm; second, 0.97 mm; third, 0.83 mm. Fourth femur 1.10 mm; patella and tibia 1.24 mm; metatarsus 0.82 mm; tarsus 0.33 mm.

Diagnosis. The epigynum, which has a heavily sclerotized plate, is similar to that of *D. pumicata*; the internal genitalia, however, separate the two species (Figs. 91, 92). The very heavily sclerotized ducts are much longer and surround the posterior seminal receptacles on their anterior face.

Records. Two ♀ paratypes collected with type.

DIPOENA OPANA sp. n.

Figures 93-95

Type. Female holotype from Nova Teutonia, lat 27°11' S, long 52°23' W, Santa Catarina, Brazil, 1930-1940 (F. Plaumann), in

the Senckenberg Museum (no. R II/8128/1). The specific name is an arbitrary combination of letters.

Description. Carapace yellow-brown. Sternum yellowish. Legs brown. Abdomen shiny, brownish with venter lighter. Eyes subequal in size. Anterior median eyes two-thirds their diameter apart, almost touching laterals. Posterior eyes their radius apart. Chelicerae without teeth, with usual long fang. Total length 1.8 mm. Carapace 0.61 mm long, 0.59 mm wide. First patella and tibia, 0.59 mm; second, 0.55 mm; third, 0.62 mm. Fourth femur, 0.65 mm; patella and tibia, 0.87 mm; metatarsus, 0.39 mm; tarsus, 0.36 mm.

Diagnosis. This species differs from most *Dipoena* in having the third legs relatively long. The posterior seminal receptacles are elongated and the duct to the outside is extremely short (Figs. 94, 95), unlike other *Dipoena*.

Records. ♀ paratype collected at type locality.

DIPOENA ZETEKI Chickering

Figures 96-98

Dipoena zeteki Chickering, 1943, Trans. Amer. Micros. Soc., 62: 376, figs. 67-68, ♀. Female holotype from Ft. Davis, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace light brown. Dorsum of abdomen gray with white marks (Fig. 96), a large white stripe above spinnerets; venter light.

DIPOENA PLAUMANNI sp. n.

Figures 99-104

Type. Male holotype from Nova Teutonia, lat 27°11' S, long 52°23' W, Santa Catarina, Brazil, July 1955 (F. Plaumann) in the Institut Royal des Sciences Naturelle de Belgique, Brussels. The species is named after the collector.

Description. Carapace, sternum, legs, yellow. Abdomen yellow with a grayish cast, lighter above spinnerets. Carapace of male only slightly elevated with grooves (Figs. 99, 100). Diameter of anterior median eyes almost twice that of other eyes. Anterior median eyes less than one-quarter diameter apart, less than one-quarter diameter from laterals. Posterior median eyes about two-thirds diameter apart and their radius from laterals in females; their radius apart and two-thirds diameter from laterals in male. Total length of female 2.2 mm. Carapace 0.72 mm long,

0.66 mm wide. First patella and tibia 0.72 mm; second 0.68 mm; third 0.64 mm. Fourth femur 0.80 mm; patella and tibia 0.84 mm; metatarsus 0.56 mm; tarsus 0.40 mm. Total length of male 1.7 mm. Carapace 0.76 mm long, 0.63 mm wide. First patella and tibia 0.72 mm; second 0.64 mm; third 0.64 mm. Fourth femur 0.80 mm; patella and tibia 0.84 mm; metatarsus 0.48 mm; tarsus 0.40 mm.

It is not certain that the male and female belong together.

Diagnosis. The male palpus has a distinctive sclerite (Figs. 103, 104) resembling that of *D. kuyuwinii*. However, *D. kuyuwinii* has a higher carapace and dark spotted abdomen. The ducts connecting the anterior and posterior pair of seminal receptacles are longer than in most species, the connecting ducts shorter and the openings indistinct, behind a small sclerotized lip (Fig. 102).

Record. ♀ from type locality Feb. 1956.

DIPOENA KUYUWINI sp. n.

Figures 105-108

Type. Male holotype from Kuyuwinii Landing, Kuyuwinii River, British Guiana, 1937 (W. G. Hassler), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Male. Carapace yellow-brown. Sternum dusky. Legs dusky, venter with faint indication of dusky bands. Dorsum of abdomen spotted black and white (Fig. 105), venter light. Carapace of male very high, cylindrical, with grooves. Anterior median eyes much larger than others, their radius apart, almost touching laterals. Posterior median eyes their radius apart, their diameter from laterals. Total length of male 1.9 mm. Carapace 0.98 mm long, 0.78 mm wide, 0.92 mm high. First patella and tibia 1.04 mm; second 0.85 mm; third 0.78 mm. Fourth femur 1.00 mm; patella and tibia 1.10 mm; metatarsus 0.80 mm; tarsus 0.41 mm.

The epigynum (Fig. 107) illustrated belongs to a female probably of this species. This is not certain because the male is accompanied by fragments of two different females with similar color pattern.

Diagnosis. A posterior-pointing sclerite covering the tegulum (Fig. 108) separates this species from most *Dipocna*, and the cymbium, which has teeth on the distal tip, separates this species from *D. plaumanni*.

Records. *Venezuela.* Carabobo: San Estebán, 1888, ♂ (E. Simon, MNHN). *British Guiana:* Kuyuwini River, Kuyuwini Landing, ♂ paratype, 2 ♀ fragments (W. G. Hassler, AMNH).

DIPOENA BENI sp. n.

Figures 111-113

Type. Female holotype from Rurrenabaque, Beni, Bolivia, Oct.-Nov. 1956 (L. Peña), in the Institut Royal des Sciences Naturelles de Belgique, Brussels. The specific name is a noun in apposition after the type locality.

Description. Carapace red-brown with dusky border. Sternum yellow-brown, legs red-brown. Abdomen dark gray to black with indistinct lighter spots; venter colorless in center and around pedicel; sides of posterior nearly black. Anterior median eyes slightly larger than others, one-third diameter apart, almost touching laterals. Posterior median eyes one-third diameter apart, their radius from laterals. Abdomen of somewhat irregular shape (Fig. 111). Total length of female 2.5 mm. Carapace 0.91 mm long, 0.98 mm wide. First patella and tibia 1.36 mm; second 1.10 mm; third 0.98 mm. Fourth femur 1.36 mm; patella and tibia 1.50 mm; metatarsus 1.17 mm; tarsus 0.60 mm.

Diagnosis. *Dipoena beni* is similar to *D. pumicata* but differs in having the posterior margin of the epigynum more heavily sclerotized (Fig. 113), and the posterior seminal receptacles are more anterior (Fig. 112) than those of *D. pumicata*. The internal ducts of *D. beni* are difficult to see.

DIPOENA PERUENSIS sp. n.

Figures 131-132

Type. Female holotype from Upper Pachitea River, Pasco, Peru, 21 July 1920, in the American Museum of Natural History. The specific name is an adjective after the the country of the type locality.

Description. Carapace very dark brown, nearly black. Sternum black. Legs yellow, with a black line anterior on first and second legs, posterior on third and fourth. Abdomen subtriangular, black, venter somewhat lighter; area of the epigynum reddish brown. Carapace projecting above the clypeus, highest in thoracic region. Anterior median eyes much larger than others. Anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes two diameters apart, one and

one-half diameters from laterals. Total length 2.00 mm. Carapace 0.96 mm long, 0.65 mm wide, 0.36 mm high. First patella and tibia 0.78 mm; second 0.65 mm; third 0.58 mm. Fourth femur 0.78 mm; patella and tibia 0.85 mm; metatarsus 0.50 mm.

Diagnosis. The epigynum (Fig. 132), which has two sclerotized anterior wings, separates this species from *D. anahua* and others.

Records. "Parag. M. Grosso," ♀ (E. Gounelle, MNHN).

DIPOENA PERIMENTA sp. n.

Figures 133-137

Type. Male holotype from Experimental Gardens, Panama Canal Zone, 12-19 Aug. 1945 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, legs and abdomen yellowish; eye region black. A dark median longitudinal line on abdomen dorsum. Carapace of male high (Figs. 133-134), that of female highest behind eyes. Anterior median eyes almost twice the diameter of others. Anterior median eyes two-thirds to one diameter apart, almost touching laterals. Posterior eyes about one diameter or slightly more apart. Abdomen of female covered with sclerotized setae, that of male two-thirds covered by a dorsum scutum. Total length of female 1.0 mm. Carapace 0.50 mm long, 0.52 mm wide. First patella and tibia 0.49 mm; second 0.47 mm; third 0.45 mm. Fourth femur 0.61 mm; patella and tibia 0.71 mm; metatarsus 0.32 mm; tarsus 0.26 mm. Total length of male 1.1 mm. Carapace 0.60 mm long, 0.52 mm wide, 0.44 mm high. First patella and tibia 0.45 mm; second 0.44 mm; third 0.36 mm. Fourth femur 0.52 mm; patella and tibia 0.65 mm; metatarsus 0.27 mm; tarsus 0.26 mm.

Diagnosis. The wider ducts in the female genitalia (Fig. 135), and the lack of a sclerotized anterior scale overhanging the opening (Fig. 136) separate the female from *D. alta*. The male is distinct from *D. alta* in having only three radial grooves on the carapace (Fig. 134), and in the different course of ducts in the palpus (Fig. 137).

Records. Panama Canal Zone: Experimental Gardens, ♀, ♂ paratypes (A. M. Chickering); Forest Reserve; Madden Dam (A. M. Chickering).

DIPOENA ALTA Keyserling

Figures 138-139; Map 2

Dipocna alta Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 45, pl. 12, fig. 159, ♂. Male type from Montaña de Nancho, [?Cajamarca], Peru, in the Polish Academy of Sciences, Warsaw, examined.

Euryopis lutea Keyserling, 1891, *op. cit.*, Brasilianische Spinnen, 3: 227, pl. 9, fig. 168, ♀. Female type from Serra Vermella, [Est. Rio de Janeiro], Brazil, in the British Museum, examined. NEW SYNONYMY.

Dipocna lineatipes Bryant, 1933, Bull. Mus. Comp. Zool., 74: 174, fig. 7, ♀. Female holotype from Royal Palm Park, Florida, in the Museum of Comparative Zoology, examined.—Levi, 1953, Amer. Mus. Novitates, no. 1647: 12, figs. 11-15, 120-121, ♀, ♂. NEW SYNONYMY.

Dipoena pallida Chickering, 1943, Trans. Amer. Micros. Soc., 62: 364, figs. 50, 51, ♀. Female holotype from Barro Colorado Isl., Panama, in the Museum of Comparative Zoology, examined. Preoccupied by *Dipoena pallida* (Emerton). NEW SYNONYMY.

Dipoena furtiva Chickering in Roewer, 1951, Abhandl. naturwiss. Ver. Bremen, 32: 455. New name for *D. pallida* Chickering, preoccupied.—Levi, 1953, Amer. Mus. Novitates, no. 1639: 3, fig. 18, ♀. NEW SYNONYMY.

Figures 138, 139 were made from the type of *Euryopis lutea*.

Natural History. This species probably occurs on shrubs or trees, judging by the specimens collected by Mr. Nadler who mostly collects by beating vegetation.

Distribution. Florida, Alabama, Texas, Puebla (Mexico), Panama, Jamaica, Peru, Brazil (Map 2).

Additional Records. *Mexico.* Veracruz [no locality]. *Panama Canal Zone:* Forest Reserve; Barro Colorado Isl.; Summit; Experimental Gardens (all A. M. Chickering). *Panama:* El Volcán (A. M. Chickering). *British West Indies: Jamaica:* Hardwar Gap, Blue Mts. (A. M. Chickering); Morces Gap, St. Andrew Par. (M. W. Sanderson). *Trinidad:* Simla (A. M. Nadler, AMNH). *Venezuela, Carabobo:* San Estebán (E. Simon, MNHN). *Aragua:* Tovar (E. Simon, MNHN). *Ecuador: El Oro:* Río Jubanes, Pasaje (R. Walls). *Peru. Huánuco:* Divisoria, 1700 m (F. Woytkowski). *Brazil. Espírito Santo:* Santa Teresa (A. M. Nadler, AMNH). *Minas Gerais:* Caraga (E. Gounelle, MNHN). *Est. Rio de Janeiro:* Teresópolis (H. Sick AMNH); Rio de Janeiro (A. M. Nadler AMNH). *São Paulo:* Forest Reservation, São Paulo (A. M. Nadler, AMNH). *Mato Grosso:* (MNHN); Campo Grande (A. M. Nadler, AMNH).

DIPOENA WASPUCENSIS sp. n.

Figures 140-142

Type. Female holotype from Musawas, Waspuc River, Nicaragua, 10-31 Oct. 1955 (B. Malkin), in the American Museum of Natural History. The specific name is an adjective after the type locality.

Description. Carapace, sternum, legs dusky light brown. Legs lightest at proximal end, metatarsi darkest. Dorsum of abdomen mottled gray (Fig. 140), venter very light gray. Anterior median eyes slightly larger than others, one-third their diameter apart almost touching laterals. Posterior median eyes their radius apart, two-thirds diameter from laterals. Total length 2.8 mm. Carapace 0.84 mm long, 0.93 mm wide. First patella and tibia 1.20 mm; second 1.06 mm; third 0.96 mm. Fourth femur 1.20 mm; patella and tibia 1.20 mm; metatarsus 0.98 mm; tarsus 0.45 mm.

Diagnosis. The coloration and the epigynum opening with anterior and lateral lips (Fig. 142) separate *D. waspucensis* from *D. alta* and *D. perimentia*.

DIPOENA LONGIVENTRIS (Simon), new combination

Figures 114-115

Euryopsis longiventris Simon, 1905, Boll. Musei Zool. Anat. Comp. Univ. Torino, 20(511): 6. Female holotype from Chabut, Puerto Piramides [Puerto Pirámide, Chubut], Argentina, in the Muséum National d'Histoire Naturelle, Paris, examined.

The carapace is golden yellow and the abdomen covered with spots and transverse bands.

DIPOENA VENUSTA Chickering

Figures 116-118

Dipoena venusta Chickering, 1948, Trans. Amer. Micros. Soc., 67: 339, figs. 11-12, ♀. Female holotype from Ft. Sherman, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

This species is whitish except for a narrow line on the clypeus, a black mark on the venter of the abdomen anterior to the pedicel and a gray patch between the brown epigynum and spinnerets.

DIPOENA ESRA sp. n.

Figures 119-121

Type. Female holotype from Tingo María, Huánuco, Peru, 8 Oct. 1946 (J. C. Pallister), in the American Museum of Natural History. The specific name is an arbitrary combination of letters.

Description. Carapace yellow-white, slightly dusky on sides. Sternum, legs, yellow-white. Abdomen yellow-white, venter black anterior to pedicel, anterior margin of dorsum black, and a square black area between epigynum and spinnerets. The dorsum has some indistinct gray spots (Fig. 119). Eyes subequal in size. Anterior medians three-quarters diameter apart, almost touching laterals. Posterior medians their radius apart, one diameter from laterals. Total length 1.6 mm. Carapace 0.68 mm long, 0.67 mm wide, 0.45 mm high. First patella and tibia 0.78 mm; second 0.75 mm; third 0.60 mm. Fourth femur 0.78 mm; patella and tibia 0.85 mm; metatarsus 0.39 mm; tarsus 0.27 mm.

Diagnosis. The very heavy connecting ducts (Fig. 120) separate this species from other known species of *Dipoena*.

DIPOENA MERTONI sp. n.

Figures 122-124

Type. Female holotype from Boquete, Panama, 1-8 Aug. 1950 (A. M. Chickering), in the Museum of Comparative Zoology. The species is named after Dr. A. M. Chickering.

Description. Carapace, sternum, legs yellow-white. Abdomen yellow-white, a pair of black spots above spinnerets on dorsum and anterior of dorsum gray with a light patch in middle (Fig. 122). Eyes subequal in size. Anterior median eyes two-thirds diameter apart, one-quarter from laterals. Posterior median eyes one-third diameter apart, one diameter from laterals. Total length 1.6 mm. Carapace 0.83 mm long, 0.80 mm wide. First patella and tibia 1.0 mm; second 0.85 mm; third 0.80 mm. Fourth femur 1.04 mm; patella and tibia 1.07 mm; metatarsus 0.71 mm; tarsus 0.39 mm.

Diagnosis. The subtriangular shape of the abdomen (Fig. 122) and shorter connecting ducts (Fig. 123) separate this species from *D. bernardino* and *D. daltoni* which have a similar epigynum.

DIPOENA WOYTKOWSKII sp. n.

Figures 147-149

Type. Female holotype from Utcuyacu, Junín, Peru, 1600-2200 m alt. March 1948 (F. Woytkowski), in the American Museum of Natural History. The species is named after F. Woytkowski, the collector.

Description. Carapace yellow-brown, dusky on sides. Sternum dusky gray. Legs yellow-brown with gray rings, proximal half of femora and coxae yellow. Dorsum of abdomen with black, gray and white pattern (Figs. 147), a white spot above spinnerets; venter gray. Eyes subequal in size. Anterior median eyes their radius apart, almost touching laterals. Posterior median eyes one-quarter diameter apart, less than their diameter from laterals. Total length 2.5 mm. Carapace 0.94 mm long, 0.91 mm wide. First patella and tibia 0.95 mm; second 0.91 mm; third 0.78 mm. Fourth femur 1.06 mm; patella and tibia 1.14 mm; metatarsus 0.67 mm; tarsus 0.42 mm.

Diagnosis. This species can be separated from *D. obscura* and other *Dipocna* having a similar epigynum (Fig. 149) by the shape and pattern of the abdomen (Fig. 147).

Records. *Venezuela.* *Carabobo:* San Estebán, 1888, ♀ doubtful determination (E. Simon, MNHN). *Peru. Huánuco:* Tingo María, 10 Jan. 1947, ♀ paratype (J. C. Pallister, AMNH). [?] "San Martín," 15, 16 Dec. 1946, ♀ (J. C. Pallister, AMNH).

DIPOENA CONICA Chickering

Figures 143-146

Dipocna conica Chickering, 1943, Trans. Amer. Micros. Soc., 62: 341, figs. 18, 19, ♀. Female holotype from Barro Colorado Isl., Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Dipocna cylindrica Soares and Camargo, 1955, Arq. Mus. Nacional, Rio de Janeiro, 42: 580, figs. 9, 12, 13, ♂. Male holotype from Pirenópolis, Goiás, Brazil, in the Departamento de Zoologia da Secretaria da Agricultura do Estado de São Paulo. Paratype examined. NEW SYNONYMY.

Note. The paratype of *D. cylindrica* examined has lost its abdomen. The palpus resembles *D. conica*. The original description mentions abdomen coloration but not shape. It may have been damaged. Since no other specimens of *D. conica* are known from South America and since the shape of the abdomen is a diagnostic feature, there is the possibility that *D. cylindrica*

might be *D. atlantica* Chickering. Soares and Camargo's illustration (reproduced by Fig. 56) was probably made from a cleared palpus.

The conical abdomen (Fig. 143) distinguishes this species from the related *D. atlantica* and all other *Dipoena*.

Distribution. Panama and south central Brazil.

Records. *Panama Canal Zone:* Barro Colorado Island, ♀, ♂ (A. M. Chickering).

DIPOENA ATLANTICA Chickering

Figures 150-154

Dipoena atlantica Chickering, 1943, Trans. Amer. Micros. Soc., 62: 330, figs.

1-4, ♀, ♂. Male holotype from Barro Colorado Island, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

The rounded abdomen distinguishes this species from *D. conica*, the pattern on the abdomen (Fig. 150) from *D. insulana*, the long transparent anterior lip of the epigynum (Figs. 152, 153) from *D. pusilla*.

Additional Records. *Panama Canal Zone:* Summit (A. M. Chickering). *Venezuela.* *Carabobo:* San Estebán (E. Simon, MNHN). *Peru.* *Huánuco:* Divisoria, 1700 m (F. Woytkowski, AMNH). *Brazil.* *Minas Gerais:* Caracá (E. Gonnelle, MNHN). *Rio de Janeiro:* Paineiras, ♀ doubtful det. (A. M. Nadler, AMNH); Niterói, ♂ (E. Gonnelle, MNHN). *Mato Grosso:* ♀ (MNHN). *Paraguay:* ♀ (MNHN).

DIPOENA STANDLEYI sp. n.

Figures 155-159

Type. Female holotype from Balboa, Panama Canal Zone, Aug. 1956 (A. M. Chickering), in the Museum of Comparative Zoology. The species is named after P. C. Standley, botanist.

Description. Carapace, sternum, legs, yellowish without pigment except some pigments in anterior median eyes. Abdomen yellowish, some dusky to black marks on dorsum (Figs. 156, 157) and some black spots anterior on venter (Fig. 155); back of paratype with a black band on anterior half of dorsum and without ventral black spots. Anterior median eyes slightly larger than others, two-thirds diameter apart, almost touching laterals. Posterior median eyes their radius apart, two-thirds diameter from laterals. Total length 2.4 mm. Carapace 0.94 mm long, 0.91 mm wide. First patella and tibia 0.94 mm; second

0.88 mm; third 0.78 mm. Fourth femur 0.98 mm; patella and tibia 1.04 mm; metatarsus 0.66 mm; tarsus 0.40 mm.

Diagnosis. The shape and color of the abdomen distinguishes this species from *D. obscura*, *D. atlantica*, *D. conica* and *D. donaldi*. *Dipoena standleyi* also differs from these species, all of which have similar epigyna, in that the ducts connecting the anterior and posterior seminal receptacles are heavily sclerotized and can be seen through the epigynum (Figs. 158, 159).

Records. *Panama Canal Zone:* Barro Colorado Isl., Standley Trail, 21 Aug. 1954, ♀ paratype (A. M. Chickering).

DIPOENA OBSCURA Keyserling

Figures 169-170

Dipoena obscura Keyserling, 1891, *Die Spinnen Amerikas, Brasilianische Spinnen*, 3: 226, pl. 9, fig. 167, ♀. Female holotype from Serra Vermelha, [Est. Rio de Janeiro], Brazil, in the British Museum, examined.

Coloration blackish brown; only on the posterior part of the carapace are two light areas, and the distal ends of the legs are yellow. The abdomen is oval in outline, rounded behind and in front, and is shiny (Keyserling, 1891). It differs in coloration from *D. standleyi*.

DIPOENA ANAHUAS sp. n.

Figures 171-173

Type. Female holotype from Cañon de las Anahuas, Linares, Nuevo León, Mexico, 18 July 1942 (F. Bonet, D. Palaez), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellow, eye region dusky, margin black, a series of three dusky spots on each side, and a dusky spot in middle. Sternum, legs, yellow. Abdomen dorsum having light spots on gray (Fig. 171), venter light with a gray ring around spinnerets. Anterior median eyes slightly larger than others, two-thirds their diameter apart, almost touching laterals. Posterior median eyes their radius apart. Total length 1.5 mm. Carapace 0.62 mm long, 0.59 mm wide. First patella and tibia 0.57 mm; second 0.55 mm; third 0.54 mm. Fourth femur 0.62 mm; patella and tibia 0.72 mm; metatarsus 0.41 mm; tarsus 0.36 mm.

Diagnosis. The coloration and the central sclerotized plate of the epigynum (Fig. 173) readily separate this species from *D. obscura* and *D. standleyi*.

DIPOENA PUSILLA (Keyserling), new combination

Figures 160-162

Euryopis pusilla Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 263, pl. 21, fig. 311, ♀. Female holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

This species is much darker than *D. atlantica*. The abdomen has only a few light spots on the dorsum and a white spot above the spinnerets (Fig. 160). The anterior lip above the opening of the epigynum is shorter (Fig. 162) than that of *D. atlantica*.

Record. Brazil. Rio de Janeiro: Niterói, ♀ (E. Gounelle, MNHN).

DIPOENA DONALDI Chickering

Figures 163-168

Dipoena donaldi Chickering, 1943, Trans. Amer. Micros. Soc., 62: 347, figs. 24-26, ♂. Male holotype from Fort Davis, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Description. Female carapace yellow-brown. Sternum dusky. Legs yellowish above, dusky to black on venter. Subtriangular abdomen black, one specimen whitish with a gray band across dorsum and a gray patch anterior to it. Total length of female 2.2 mm. Carapace 0.80 mm long, 0.75 mm wide. First femur 1.00 mm; patella and tibia 1.09 mm; metatarsus 0.73 mm; tarsus 0.31 mm. Second patella and tibia 0.95 mm; third 0.83 mm; fourth 1.00 mm.

Variation. Venezuelan specimens are much smaller than the type from Panama. The carapace of the male is not quite as tall and there are some small differences in the palpi (Figs. 167, 168). Figure 167 was prepared from the type.

Records. Venezuela. Aragua: Rancho Grande, 24 June-1 July 1945, ♂ (W. Beebe, AMNH); Dec. 1954, ♀, ♂ (A. M. Nadler, AMNH).

DIPOENA INSULANA Chickering

Figures 174-177

Dipoena insulana Chickering, 1943, Trans. Amer. Micros. Soc., 62: 355, figs. 36-39, ♀, ♂. Male holotype from Barro Colorado Island, Panama Canal

Zone, in the Museum of Comparative Zoology, examined. — Levi, 1953, Amer. Mus. Novitates, no. 1639: 8.

Carapace, sternum gray; legs yellow with black spots on venter; abdomen blackish with light spots on dorsum (Fig. 174), and also a white line above the spinnerets; venter light.

Distribution. Western Mexico to Panama.

Additional Record. *Nicaragua*: Musawas, Waspuc River (B. Malkin, AMNH).

DIPOENA PUERTORICENSIS sp. n.

Figures 178-180

Type. Female holotype from El Yunque, Puerto Rico, 27, 28 Feb. 1955 (A. M. Nadler), in the American Museum of Natural History. The specific name is an adjective after the island of the type locality.

Description. Carapace dusky gray with a black line across middle. Sternum gray. Legs yellow with narrow black rings that are more distinct on venter. Dorsum of abdomen with a gray pattern (Fig. 178); venter gray. Eyes subequal in size, appearing very large. Anterior median eyes one-quarter diameter apart, almost touching laterals. Posterior eyes one-third diameter apart. Total length 1.7 mm. Carapace 0.66 mm long, 0.58 mm wide. First patella and tibia 0.62 mm; second 0.58 mm; third 0.52 mm. Fourth femur 0.67 mm; patella and tibia 0.67 mm; metatarsus 0.41 mm; tarsus 0.36 mm.

Diagnosis. The coloration (Fig. 178) and proportions separate this species from *D. rubellum*. The epigynum (Fig. 180) is similar.

DIPOENA NITEROI sp. n.

Figures 181, 182

Type. Male holotype from Niterói, Est. Rio de Janeiro, Brazil, in the Muséum National d'Histoire Naturelle, Paris (no. 9143). The specific name is a noun in apposition after the type locality.

Description. Carapace yellowish, black between eyes with a broad black band between eyes and cheliceral margin of clypeus. Chelicerae with some black. Sternum yellow-white. Legs yellow-white with black spots below; cymbium of palpus black. Abdomen with white pigment on dorsum, some black anterior (Fig. 181) and gray pigment on venter. Carapace of male much higher than long, with grooves as in many other *Dipoea* species.

Anterior median eyes slightly larger than others, their radius apart, almost touching laterals. Posterior median eyes one diameter apart, one and one-half diameters from laterals. Abdomen triangular (Fig. 181). Total length 1.5 mm. Carapace 0.65 mm long, 0.62 mm wide, 0.68 mm high. First patella and tibia, 0.52 mm; second, 0.52 mm; third, 0.43 mm. Fourth femur, 0.55 mm; patella and tibia, 0.59 mm; metatarsus, 0.32 mm; tarsus, 0.26 mm.

Diagnosis. This species can be separated from *D. militaris* by the shape of the embolus and by the subtriangular abdomen (Fig. 181); it differs from *D. santacatarinae* by having embolus and conductor of different shape (Fig. 182).

DIPOENA VARIABILIS (Keyserling), new combination

Figures 185, 186

Euryopis variabilis Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 262, pl. 21, fig. 310, ♀. Female holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

This species is not the same as *Euryopis variabilis*,—Levi, 1954, Amer. Mus. Novitates, no. 1666: 23, figs. 25, 26, 35, from Florida.

Carapace dark brown. Chelicerae, sternum, legs, yellow. Abdomen dorsum dark, nearly black, with light patches varying in position in different specimens, a light stripe just above spinnerets. Venter of abdomen yellow.

Records. Brazil. Minas Gerais: Caraca (E. Gounelle, MNHN). Rio de Janeiro: Niterói (E. Gounelle, MNHN).

DIPOENA SUPERBA Chickering

Figures 183-184

Dipoena superba Chickering, 1948, Trans. Amer. Micros. Soc., 67: 337, figs. 8-10, ♂. Male holotype from Ft. Sherman, Panama Canal Zone, in the Museum of Comparative Zoology, examined.—Levi, 1953, Amer. Mus. Novitates, no. 1639: 10.

This species is yellowish white with black stripes on dorsum of abdomen, and white pigment spots (Fig. 183).

Distribution. Chiapas, Mexico to Panama.

DIPOENA RUBELLUM (Keyserling), new combination

Figures 187-190

Theridion rubellum Keyserling, 1884, Die Spinnen Amerikas, Theridiidae, 2(1): 63, pl. 3, fig. 37, ♀. Abdomen of female holotype from Amable

María, [Junín], Peru, in the Polish Academy of Sciences, Warsaw, examined.

Dipoena petrunkevitchi Chickering, 1943, Trans. Amer. Micros. Soc., 62: 368, figs. 54-59, ♀, ♂. Male holotype from Barro Colorado Isl., Panama Canal Zone, in the Museum of Comparative Zoology, examined. Preoccupied by *D. petrunkevitchi* Roewer, 1942. NEW SYNONYMY.

Dipoena roeweri Chickering in Roewer, 1951, Abhandl. naturwiss. Ver. Bremen, 32: 455. New name for *D. petrunkevitchi* Chickering preoccupied. NEW SYNONYMY.

The abdomen and prosoma of the type of *T. rubellum* belong to different female specimens. The prosoma is that of an unknown *Theridion*. Figures 188, 189 were prepared from the type.

Prosoma, legs, yellowish. Dorsum of abdomen with white spots on background of purplish to red anterior, gray to black posterior; venter light.

Distribution. Panama, Peru, southern Brazil.

Records. Brazil. Amazonas: Fonte Boa, ♀ (Mathews, MNHN). Santa Catarina: Nova Teutonia, lat 27°11' S, long 52°23' W (F. Plaumann, SMF).

DIPOENA BRYANTAE Chickering

Figures 191-193

Dipoena bryantae Chickering, 1943, Trans. Amer. Micros. Soc., 62: 339, figs. 14-17, ♀, ♂. Male holotype from Barro Colorado Isl., Panama Canal Zone, in the museum of Comparative Zoology, examined.

Carapace, sternum, legs, dark gray-brown, proximal portions of femora and distal segments lighter; subtriangular abdomen black.

Natural History. This species is probably found on vegetation.

Additional Records. Panama Canal Zone: Summit (A. M. Chickering). Lesser Antilles. Trinidad: Piarco (A. M. Nadler, AMNH); Simla near Arima (A. M. Nadler, AMNH).

DIPOENA SANTACATARINAE sp. n.

Figures 194-198

Type. Male holotype from Nova Teutonia, lat 27°11' S, long 52°23' W, Santa Catarina, Brazil (F. Plaumann), in the Senckenberg Museum (no. R II/13472/1). The species is named after Santa Catarina.

Description. Carapace white, black below anterior median eyes and a black spot on clypeus. Chelicerae with some black pigment anterior. Sternum yellow-white. Legs white with indistinct

brown bands. Abdomen whitish with small white pigment spots on dorsum and anterior border blackish. Carapace of male very high with grooves (Fig. 195). Anterior median eyes of male slightly larger than others, one diameter apart, touching laterals. Posterior median eyes two-thirds diameter apart, one diameter from laterals. Anterior median eyes of female their radius apart, touching laterals. Posterior median eyes their radius apart, one diameter from laterals. Abdomen of female wider than long with some gray around spinnerets. Total length of female 1.7 mm. Carapace 0.36 mm long, 0.33 mm wide. First patella and tibia, 0.34 mm; second, 0.34 mm; third 0.31 mm. Fourth femur, 0.89 mm; patella and tibia, 0.40 mm; metatarsus, 0.26 mm; tarsus, 0.16 mm. Total length of male 1.3 mm. Carapace 0.68 mm long, 0.61 mm wide, 0.79 mm high. First patella and tibia 0.58 mm; second, 0.58 mm; third, 0.57 mm. Fourth femur, 0.66 mm; patella and tibia, 0.68 mm; metatarsus, 0.39 mm; tarsus, 0.23 mm.

Diagnosis. The coloration (Fig. 194), shape of the embolus (Fig. 198) and the epigynum and female genitalia (Figs. 196, 197) separate this species from *D. bryantae*.

Variation. The palpus of the male collected at Caracá has the median apophysis more swollen, and the radix behind the embolus lies against the median apophysis rather than standing up.

Records. *Brazil. Minas Gerais:* Caracá, ♀, ♂ (E. Gounelle, MNHN). *Santa Catarina:* Nova Teutonia, ♀ (F. Planmann, SMF).

DIPOENA BIMINI sp. n.

Figures 199-204

Type. Male holotype from South Bimini, Bahama Islands, 9-10 Dec. 1952 (A. M. Nadler), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace yellow; female with the cephalic area dusky; a dusky band continuing posteriorly is constricted in the thoracic area; sides dusky. Male with a dusky line on clypeus. Sternum yellow; legs yellow with indications of fine dusky bands on venter. Abdomen dorsum black with light marks (Fig. 199); venter lighter. Male carapace high, with dorsal grooves (Figs. 200, 201). Anterior median eyes slightly larger than others, two-thirds their diameter apart, almost touching laterals in female.

Posterior eyes two-thirds diameter apart. Total length of female 1.2 mm. Carapace 0.54 mm long, 0.54 mm wide. First patella and tibia 0.49 mm; second 0.44 mm; third 0.40 mm. Fourth femur 0.55 mm; patella and tibia 0.65 mm; metatarsus 0.35 mm; tarsus 0.31 mm. Total length of male 1.3 mm. Carapace 0.65 mm long; 0.52 mm wide, 0.65 mm high. First patella and tibia 0.52 mm; second 0.42 mm; third 0.42 mm. Fourth femur 0.52 mm; patella and tibia 0.59 mm; metatarsus 0.26 mm; tarsus 0.26 mm.

Diagnosis. The female genitalia (Figs. 202, 203) separate this species from *D. atlantica*. The palpus (Fig. 204) appears very different if only slightly turned.

Records. *Bahama Islands:* South Bimini, 9, 10 Dec. 1952, 2 ♀ paratypes (A. M. Nadler, AMNH); May 1951, 2 ♂ paratypes (W. J. Gertsch, M. A. Cazier, AMNH). *Cuba.* Oriente: S side of Pico Turquino, 1000-1500 m, June 1936, ♀ (P. J. Darlington).

DIPOENA SPINITHORAX (Keyserling)

Figures 205-208

Deliana spinithorax Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 35, pl. 11, fig. 153, ♀. Female holotype from Tumbes [Tumbes], Peru, in the Polish Academy of Sciences, Warsaw, examined.

Description. Carapace dark red-brown. Sternum dark brown. Legs yellow with prolateral sides of first and second legs, and retrolateral sides of third and fourth brown. Coxae yellow-white. Abdomen shiny brownish black, a little lighter on venter. Carapace with an inconspicuous spine on thorax. Diameter of anterior median eyes more than twice that of other eyes. Anterior median eyes two-thirds diameter apart, almost touching laterals. Posterior eyes a little less than their diameter apart. Total length 2.3 mm. Carapace 0.90 mm long, 0.78 mm wide. First patella and tibia, 0.91 mm; second, 0.78 mm; third, 0.75 mm. Fourth femur, 0.91 mm; patella and tibia, 0.91 mm; metatarsus, 0.55 mm; tarsus, 0.36 mm.

DIPOENA PUMICATA (Keyserling), new combination

Figures 209-218

Euryopsis pumicata Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 264, pl. 21, fig. 312, ♀. Female holotype from "Blumenau, Brasilien," however, type in British Museum, examined, is labelled as coming from Serra Vermelha, [Est. Rio de Janeiro].

Dipoena maculata Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 225, pl. 9, fig. 166, ♂. Male holotype from Espirito Santo on Rio Minas, Brazil, in the British Museum, examined. NEW SYNONYMY.

Carapace red-brown, legs red-brown except for yellow proximal portions. Abdomen blackish brown with symmetrical white spots (Fig. 209).

Comment. The epigynum of different specimens differs. The anterior dark areas are variable (Figs. 211, 213, 215). Females from Ceara, Matozinhos, and Tijuca have the opening more anterior (Fig. 211); other specimens, including the type, have the opening near the posterior border (Figs. 213, 215). A female from Caraca is intermediate in this respect.

Figures 214, 215 were made from the type of *Euryopis pumicata*, Figure 217 from the type of *D. maculata*.

Records. *Brazil. Ceara:* "Serra Communitaty," ♀ (E. Gonnelle, MNHN). *Bahia:* Biological Institute, Salvador, 28 Jan. 1959, ♂ (A. M. Nadler, AMNH). *Minas Gerais:* Matozinhos, ♀ (E. Gonnelle, MNHN); Caraca, ♀ (E. Gonnelle, MNHN). *Rio de Janeiro:* Teresópolis, ♀, ♂ (MNHN); Tijuca, ♀, ♂ (E. Gonnelle, MNHN). *Mato Grosso.* ♂ (MNHN). *Santa Catarina:* Nova Teutonia, lat 27°11' S, long 52°23' W, ♀ (F. Plaumann, SMF); ♂ (F. Plaumann, ISNB).

DIPOENA CORNUTA Chickering

Figures 219-222

Dipoena cornuta Chickering, 1943, Trans. Amer. Micros. Soc., 62: 344, figs. 20-23, ♀, ♂. Male holotype from Barro Colorado Isl., Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace, sternum dark brown. Legs yellow-white, with a narrow black line prolateral on first and second, retrolateral on third and fourth; abdomen black.

Additional Records. *Nicaragua:* Musawas, Waspuc River (B. Malkin, AMNH). *Panama Canal Zone:* Ft. Sherman; near Coccolí (A. M. Chickering). *Trinidad:* Simla near Arima (A. M. Nadler, AMNH). *British Guiana:* Kartabo, Bartica Distr., 1920, ♂ (W. Beebe, AMNH).

DIPOENA TIRO sp. n.

Figures 223-227

Type. Female holotype from northern Venezuela, "Caracas, San Estebán," 1887-1888 (E. Simon), in the Muséum National

d'Histoire Naturelle, Paris (no. 12631). The specific name is an arbitrary combination of letters.

Note. Although the exact type locality is not known, this species is described because it is very distinct. The female has been chosen as type since the most closely related species, *D. militaris*, also has a female type. The two species have been collected together and there is a slight possibility the males have been mixed up.

Description. Carapace rich, dark brown. Sternum olive-brown. Legs yellow with a black line along anterior face of all segments. Abdomen shiny brown, spinnerets yellow. Anterior median eyes have diameter more than twice that of others, in female two-thirds their diameter apart, touching laterals. Posterior median eyes one diameter apart, a little more than one from laterals. Anterior median eyes of male two-thirds diameter apart, almost touching laterals. Posterior eyes one and one-half diameters apart. Abdomen suboval, slightly pointed behind. Total length of female 2.2 mm. Carapace 0.85 mm long, 0.66 mm wide. First patella and tibia, 0.80 mm; second, 0.66 mm; third, 0.52 mm. Fourth femur, 0.78 mm; patella and tibia, 0.84 mm; metatarsus, 0.52 mm; tarsus, 0.28 mm. Total length of male 1.9 mm. Carapace 1.22 mm long, 0.78 mm wide, 0.91 mm high. First patella and tibia, 0.91 mm; second, 0.77 mm; third, 0.60 mm. Fourth femur, 0.80 mm; patella and tibia, 0.91 mm; metatarsus, 0.52 mm; tarsus, 0.36 mm.

Diagnosis. This species differs from *D. militaris* in that the epigynum has an anterior lip (Fig. 226), and in the male the carapace has a small pointed tip in center (Fig. 223) and the median apophysis has an apically directed projection (Fig. 227).

Records. ♀, 2 ♂ paratypes collected with type.

DIPOENA TRINIDENSIS sp. n.

Figures 228-231

Type. Male holotype from Simla, near Arima, Trinidad, Lesser Antilles, 29-30 Dec. 1954 (A. M. Nadler), in the American Museum of Natural History. The specific name is an adjective after the island of the type locality.

Description. Carapace, sternum brown. Legs dusky gray. Abdomen with parchment-like integument, black with a white spot above spinnerets. Female abdomen quite high, subtriangular (Fig. 228). Carapace of male cylindrical with dorsal grooves as in *D. bimini*. Diameter of anterior median eyes almost twice

that of others, two-thirds diameter apart, almost touching laterals. Posterior median eyes of male two-thirds their diameter apart, two diameters from laterals; of female one-third diameter apart, their radius from laterals. Total length of female 1.8 mm. Carapace 0.71 mm long, 0.62 mm wide. First patella and tibia, 0.57 mm; second, 0.55 mm; third, 0.46 mm. Fourth femur, 0.65 mm; patella and tibia, 0.67 mm; metatarsus, 0.36 mm; tarsus, 0.26 mm. Total length of male 1.6 mm. Carapace, 0.78 mm long, 0.66 mm wide, 0.78 mm high. First patella and tibia, 0.55 mm; second, 0.55 mm; third 0.45 mm. Fourth femur, 0.65 mm; patella and tibia, 0.65 mm; metatarsus, 0.38 mm; tarsus, 0.26 mm.

Diagnosis. A ventral sclerite of the palpus (probably an accessory sclerite) has a large projection (Fig. 231) that distinguishes this species from *D. superba* and other related species. The white spot above the spinnerets (Fig. 228) separates the female from *D. donaldi*.

Record. Lesser Antilles. *Trinidad:* Simla near Arima, 26 Feb. 1959, ♀, ♂ paratypes (A. M. Nadler).

DIPOENA BARRO sp. n.

Figures 232-234

Type. Female holotype from Barro Colorado Island, Panama Canal Zone, 16 July 1954 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs yellowish. Legs with some indistinct dusky bands. Abdomen with black and white spots on dorsum (Fig. 232). Anterior median eyes much larger than others, a little less than half their radius apart, almost touching laterals. Posterior median eyes their radius apart, two-thirds diameter from laterals. Total length 1.3 mm. Carapace 0.45 mm long, 0.53 mm wide. First patella and tibia 0.50 mm; second 0.50 mm; third 0.41 mm. Fourth femur 0.65 mm; patella and tibia 0.62 mm; metatarsus 0.31 mm; tarsus 0.26 mm.

Diagnosis. The epigynum and internal genitalia (Figs. 233, 234) and the spotted abdomen, which is almost as wide as long (Fig. 232), separate this species from *D. mertoni*.

DIPOENA IRA sp. n.

Figures 235-237

Type. Female holotype from Nova Teutonia, lat 27°11' S, long 52°23' W, Santa Catarina, Brazil (F. Plaumann), in the

Senckenberg Museum (no. RII/8131/1). The specific name is an arbitrary combination of letters.

Description. Carapace, sternum, yellow. Legs yellow with wide darker yellow rings. Dorsum of abdomen black, gray and white (Fig. 235); venter gray. Anterior median eyes slightly larger than others, not quite their diameter apart, almost touching laterals. Posterior median eyes their radius apart, two-thirds diameter from laterals. Abdomen wider than long (Fig. 235). Total length 2.0 mm. Carapace 0.72 mm long, 0.72 mm wide. First patella and tibia, 0.64 mm; second, 0.64 mm; third, 0.50 mm. Fourth femur, 0.69 mm; patella and tibia, 0.76 mm; metatarsus, 0.45 mm; tarsus 0.29 mm.

Diagnosis. Shorter connecting ducts (Fig. 236) separate this species from *D. hortonii*, the shape of the abdomen (Fig. 235) from *D. keyserlingi*.

Records. 2 ♀ paratypes from type locality.

DIPOENA DUODECIMPUNCTATA Chickering

Figures 238-241

Dipoena 12-punctata Chickering, 1943, Trans. Amer. Micros. Soc., 62: 348, figs. 27-29, ♂. Male holotype from Ft. Randolph, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

This species is yellow-white except for black spots on the dorsum (Fig. 238). Venezuelan specimens are darker; the anterior half of the dorsum of the abdomen may be black, or the pattern may be as in *D. bequaerti* Chickering (Fig. 266).

Additional Records. Panama Canal Zone: Forest Reserve (A. M. Chickering). Venezuela. Dist. Fed.: Caracas, ♀ (E. Simon, MNHN). Aragua: Rancho Grande, ♀, ♂ (A. M. Nadler, AMNH); Tovar, ♀, ♂ (E. Simon, MNHN).

DIPOENA KEYSERLINGI nomen novum

Figures 242-243

Euryopsis maculata Keyserling, 1891, Die Spinnen Amerikas, Brasilianische Spinnen, 3: 227, pl. 9, fig. 169, ♀. Female type from Miracema [Miracema, Rio de Janeiro], Brazil, in the British Museum, examined. Combination *Dipoena maculata* preoccupied by Keyserling, 1891, *op. cit.*, p. 225 [= *D. pumicata*]. The species is named after Count Keyserling, foremost student of South American theridiids.

The abdomen of this species has a pattern similar to that of *D. atlantica* (Fig. 150). The epigynum, however, is very distinct and the connecting ducts are shorter than those of *D. hortonii*.

Records. Brazil. Minas Gerais: Caraçá, ♀ (E. Gounelle, MNHN).

DIPOENA COPIOSA Levi

Figures 245-247

Dipocna copiosa Levi, 1953, Amer. Mus. Novitates, no. 1639: 3, figs. 14, 15, 27, 28, ♀. Female holotype from San José, Costa Rica, in the American Museum of Natural History.

The female carapace is high behind eyes (Levi, 1953a, fig. 15). Prosoma light brown. Dorsum of abdomen gray, with a white spot above spinnerets (Fig. 245). Venter black anterior to pedicel and between spinnerets and epigynum.

The Panamanian specimens are probably this species although the epigynum (Fig. 247) differs by having a longer anterior median portion of the duct than the type specimen (1953a, figs. 27, 28).

Additional Records. Panama Canal Zone: Chilibre, Experimental Gardens (both A. M. Chickering). *Brazil. São Paulo:* Forest Reservation, São Paulo (A. M. Nadler, AMNH).

DIPOENA HORTONI Chickering

Figures 250-253

*Dipocna horton*i Chickering, 1943, Trans. Amer. Micros. Soc., 62: 352, figs. 32-35, ♂. Male holotype from Chilibre, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace brownish, dusky on sides with a dusky cross; sternum gray; legs yellowish with black marks on venter. Abdomen with a black and white pattern (Fig. 250); venter gray.

Records. Trinidad. Arima Road, Gap in Blanchisseuse (A. M. Nadler, AMNH). *Venezuela. Aragua:* Rancho Grande (A. M. Nadler, AMNH). *Brazil. Pernambuco:* Recife (SMF).

DIPOENA CORDIFORMIS Keyserling

Figure 244

Dipocna cordiformis Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 259, pl. 21, fig. 307, ♂. Male holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

Carapace dark brown, legs yellow, abdomen brown-black.

Records. Panama Canal Zone: Barro Colorado Island (A. M. Chickering); Experimental Gardens (A. M. Chickering).

DIPOENA SICKI sp. n.

Figures 248-249

Type. Male holotype from Sumaré, Cidade Rio de Janeiro, Brazil, 200-300 m alt., Jan. 1946 (H. Sick), in the American Museum of Natural History. The species is named after Dr. H. Sick, Brazilian explorer and collector of the specimen.

Description. Carapace light orange with a broad black band enclosing eye region in front and going from clypeus to thoracic region. Sternum, legs, light orange. Dorsum of abdomen white with a black pattern (Fig. 248), venter white. Carapace low, without grooves. Anterior median eyes slightly larger than others, their radius apart. Posterior median eyes their radius apart, two-thirds diameter from laterals. Total length 1.5 mm. Carapace 0.65 mm long, 0.65 mm wide. First femur 0.67 mm; patella and tibia 0.75 mm; metatarsus 0.47 mm; tarsus 0.26 mm. Second patella and tibia 0.67 mm; third 0.57 mm; fourth 0.71 mm.

Diagnosis. The distinctive embolus of the palpus (Fig. 249) separates this species from other *Dipoena*.

DIPOENA AUGARA sp. n.

Figures 254-256

Type. Female holotype from Tavera, Aragua, Venezuela, 1888 (E. Simon), in the Muséum National d'Histoire Naturelle, Paris (no. 14552). The specific name is an anagram of the type locality as a noun in apposition.

Description. Carapace dusky brown. Sternum gray. Legs yellow with many narrow black rings that are broken dorsally. Abdomen gray with indistinct but symmetrical white spots on dorsum (Fig. 254) and even gray on venter. Anterior median eyes slightly larger than others, one-third their diameter apart, one-quarter diameter from laterals. Posterior median eyes their radius apart, their diameter from laterals. Abdomen wider than long (Fig. 254). Total length 1.8 mm. Carapace 0.69 mm long, 0.65 mm wide. First patella and tibia, 0.60 mm; second, 0.63 mm; third, 0.59 mm. Fourth femur, 0.75 mm; patella and tibia, 0.83 mm; metatarsus, 0.44 mm; tarsus, 0.29 mm.

Diagnosis. The elaborate coil of the ducts (Fig. 255) separates this species from most *Dipoena*. The much narrower entrance to the ducts, as visible in the epigynum (Fig. 256), separates *D. augara* from *D. meckeli* Simon.

DIPOENA MECKELI Simon

Figures 257-258

Dipoea meckeli Simon, 1897, Proc. Zool. Soc. London, p. 863. Female holotype from St. Vincent Island, Lesser Antilles, in the British Museum, examined.

The legs are banded and the abdomen has a pattern. This species is very small and the genitalia of the type specimen were difficult to study. The coiled connecting ducts are diagnostic.

DIPOENA TROPICA Chickering

Figures 259-262

Dipoea tropica Chickering, 1943, Trans. Amer. Micros. Soc., 62: 375, figs. 64-66, ♂. Male holotype from Chilibre, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Description. Female: carapace dusky brown, legs yellowish. Abdomen dusky around dorsum with a pattern (Fig. 259), venter lighter. Anterior median eyes slightly larger than others, their radius apart, almost touching laterals. Posterior median eyes one-third their diameter apart, their radius from laterals. Total length 1.4 mm. Carapace 0.53 mm long, 0.53 mm wide. First patella and tibia 0.53 mm; second 0.52 mm; third 0.52 mm. Fourth femur 0.65 mm; patella and tibia 0.68 mm; metatarsus 0.43 mm; tarsus 0.27 mm.

Diagnosis. The epigynum (Fig. 261) has a posterior projecting knob with an opening. Below the knob along the dorsal edge is an elongate transverse plate, which is shown in the cleared epigynum (Fig. 260).

Additional Records. *Panama:* Arraiján (A. M. Chickering). *Panama Canal Zone:* Summit (A. M. Chickering).

DIPOENA BANKSI Chickering

Figures 263-265

Dipoea banksi Chickering, 1943, Trans. Amer. Micros. Soc., 62: 337, figs. 10-13, ♀, ♂. Male holotype from Forest Reserve, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Dipoea schmidtii Levi, 1953, Amer. Mus. Novitates, no. 1639: 9, figs. 25, 26, ♀. Female [not male] holotype from San José, Costa Rica, in the American Museum of Natural History. NEW SYNONYMY.

This species is brownish black, with the legs slightly lighter. The abdomen is suboval.

Distribution. Costa Rica to Venezuela.

Additional Records. Panama Canal Zone: Barro Colorado Island; Chiva Road near Pedro Miguel (All A. M. Chickering). *Panama:* El Volcán (A. M. Chickering). *Venezuela. Carabobo:* San Estebán, 1888, ♀ (E. Simon, MNHN).

DIPOENA BEQUAERTI Chickering

Figures 266-267

Dipoena bequaerti Chickering, 1948, Trans. Amer. Micros. Soc., 67: 331, figs. 1-3, ♂. Male holotype from Ft. Sherman, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Carapace, sternum, yellow-brown; legs yellow with sides of femora darker. Dorsum of abdomen flecked with white and black (Fig. 266); venter gray.

DIPOENA ORVILLEI Chickering

Figures 268-271

Dipoena orvillei Chickering, 1943, Trans. Amer. Micros. Soc., 62: 360, figs. 44, 45, ♂. Male holotype from El Valle, Panama, in the Museum of Comparative Zoology, examined.

Description. Female. Carapace dark dusky brown, sternum dusky, legs brown. Abdomen black except a white spot above spinnerets (Fig. 268). Eyes subequal in size. Anterior median eyes two-thirds their diameter apart almost touching laterals. Posterior median eyes one-third diameter apart, one-third diameter from laterals. Total length of female 1.7 mm. Carapace 0.71 mm long, 0.71 mm wide. First patella and tibia 0.75 mm; second 0.70 mm; third 0.65 mm.

Diagnosis. The opening of the epigynum is in a sclerotized patch (Fig. 270). Unlike *D. banksi* the sclerotized area is some distance from the posterior margin.

Records. *Panama:* El Valle, ♀, ♂ (A. M. Chickering).

DIPOENA PACIFICA Chickering

Figures 272-276

Dipoena pacifica Chickering, 1943, Trans. Amer. Micros. Soc., 62: 361, figs. 46-49, ♀, ♂. Male holotype from El Valle, Panama, in the Museum of Comparative Zoology, examined.

This lightly colored species has the clypeus black, a black border around the carapace, and the sides of the abdomen black (Fig. 272).

Additional Record. British West Indies. Jamaica: St. Ann Parish (P. Park).

DIPOENA LIGUANEA sp. n.

Figures 277-280

Type. Male holotype from Liguanea, St. Andrew Parish, Jamaica, British West Indies, Oct. 1957 (A. M. Chickering), in the Museum of Comparative Zoology. The specific name is a noun in apposition after the type locality.

Description. Carapace dark grayish brown, sternum gray, legs white with black patches or bands. Abdomen with a median dorsal gray band on mottled white background; sides of abdomen black, a white line above spinnerets (Fig. 277); venter white. Anterior median eyes slightly larger than others, their radius apart, almost touching laterals. Posterior median eyes less than their diameter apart, less than a diameter from laterals in female, slightly more than their diameter in male. Carapace of male very high with grooves (Fig. 277). Total length of female 1.6 mm. Carapace 0.53 mm long, 0.53 mm wide. First patella and tibia 0.50 mm; second 0.45 mm; third 0.45 mm. Fourth femur 0.52 mm; patella and tibia 0.57 mm; metatarsus 0.28 mm; tarsus 0.26 mm. Total length of male 1.4 mm. Carapace 0.71 mm long, 0.57 mm wide, 0.57 mm high. First patella and tibia 0.54 mm, second 0.47 mm, third 0.45 mm. Fourth femur 0.52 mm; patella and tibia 0.60 mm; metatarsus 0.39 mm; tarsus 0.26 mm.

Diagnosis. Unlike other West Indian species, *D. liguanea* females have two separate openings in an anterior sclerotized area (Fig. 279); and the palpus has the visible portion of the median apophysis swollen (Fig. 280).

Records. *British West Indies. Jamaica.* St. Catherine Parish: W of Spanish Town, Oct., Nov. 1957 (A. M. Chickering). St. Andrew Parish: Liguanea, 2 ♀ paratypes, Oct. 1957 (A. M. Chickering); Blue Mountains, Hardwar Gap (A. M. Chickering; A. M. Nadler, AMNH); Dolphin Head (A. M. Nadler, AMNH).

DIPOENA ISTHIMIA Chickering

Figures 281-284

Dipocna isthmia Chickering, 1943, Trans. Amer. Micros. Soc., 62: 357, figs. 40-41, ♂. Male holotype from Chilibre, Panama Canal Zone, in the Museum of Comparative Zoology, examined.

Description. Female. Carapace, legs, dusky yellow. Sternum dusky. Abdomen with dorsum black, gray and white with pattern (Fig. 281); venter gray. Carapace large and massive, highest in

thoracic region, gently sloping down from thorax to eyes. Anterior median eyes much larger than others, their diameter apart, a little less than one-quarter diameter from laterals. Posterior median eyes their radius apart, one and one-half diameters from laterals. Total length 2.5 mm. Carapace 0.98 mm long, 0.91 mm wide, 0.71 mm high. First femur 1.04 mm; patella and tibia 1.14 mm; metatarsus 0.76 mm; tarsus 0.34 mm. Second patella and tibia 0.82 mm; third 0.73 mm; fourth 1.03 mm.

The female is matched to the male because of similar coloration; however, the female is much larger than the male.

Record. Panama Canal Zone: Chilibre, 8 July 1950, ♀ (A. M. Chickering).

DIPOENA TINGO sp. n.

Figures 285-287

Type. Female holotype from Tingo María, Huánuco, Peru, 20 Jan. 1947 (J. C. Pallister), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, legs, orange-yellow. Abdomen orange-yellow with some darker orange spots on back (Fig. 285). Eyes subequal in size. Anterior median eyes two-thirds diameter apart, one-quarter diameter from laterals. Posterior median eyes their diameter apart. Total length 1.6 mm. Carapace 0.65 mm long, 0.65 mm wide. First patella and tibia 0.59 mm; second 0.53 mm; third 0.40 mm. Fourth femur 0.62 mm; patella and tibia 0.61 mm; metatarsus 0.31 mm; tarsus 0.27 mm.

Diagnosis. The location of the epigynum opening at the posterior margin (Fig. 287) separates this species from others that have a sclerotized area anterior on the epigynum.

DIPOENA PALLISTERI sp. n.

Figures 288-291

Type. Female holotype from Mandor near Quillabamba, Cuzco, Peru, 15 March 1947 (J. C. Pallister), in the American Museum of Natural History. This species is named after the collector.

Description. Carapace, sternum black. Legs probably black with proximal portions of femora white. Dorsum of abdomen white and black with a pattern (Fig. 289), sides black, venter with two white spots anterior of pedicel (Fig. 288). Anterior median eyes much larger than others, three-quarters diameter

apart, almost touching laterals. Posterior median eyes their radius apart, one and one-half diameters from laterals. Total length 2.2 mm. Carapace 0.91 mm long, 0.78 mm wide. First patella and tibia 1.18 mm.

Diagnosis. The epigynum (Fig. 291), with its three pockets, separates this species from most other *Dipocna*. The white spots on the venter (Fig. 288) and shorter connecting ducts (Fig. 290) separate *D. pallisteri* from *D. foliata*.

DIPOENA FOLIATA Keyserling

Figures 292-296

Dipocna foliata Keyserling, 1886, Die Spinnen Amerikas, Theridiidae, 2(2): 260, pl. 21, fig. 308, ♀. Female holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

Carapace, sternum, red-brown. Legs yellow with distal ends of segments of fourth leg brown. Abdomen brown below, sides black; dorsum grayish white with indistinct longitudinal band consisting of black spots (Fig. 292).

Records. *Brazil.* *Santa Catarina:* Nova Teutonia, lat 27°11' S, long 52°23' W, ♀, ♂ (F. Plaumann, SMF).

DIPOENA ITU sp. n.

Figures 297-298

Type. Male holotype from Itú, Est. São Paulo, Brazil, 14 Jan. 1959 (A. M. Nadler), in the American Museum of Natural History. The specific name is a noun in apposition after the type locality.

Description. Carapace, sternum, reddish brown. Legs yellow-brown, coxae and proximal portions of femora light yellowish. Abdomen black. Carapace slightly corniculate, with eyes on a bulging projection, and a deep transverse thoracic groove (Fig. 297). Diameter of anterior median eyes more than twice that of other eyes. Anterior median eyes one diameter apart, almost touching laterals. Posterior median eyes one diameter apart, a little more than one diameter from laterals. Abdomen subtriangular. Total length 2.1 mm. Carapace 1.04 mm long, 0.73 mm wide. First femur, 0.80 mm; patella and tibia, 0.88 mm; metatarsus, 0.63 mm; tarsus, 0.31 mm. Second patella and tibia, 0.66 mm; third, 0.55 mm; fourth, 0.69 mm.

Diagnosis. The structure of the palpus (Fig. 298), the large anterior median eyes, and the shape of the carapace separate this species from other *Dipocna*.

DIPOENA INCA sp. n.

Figures 299-301

Type. Male holotype from Monzón Valley, Tingo María, Huánuco, Peru, 10 Oct. 1954 (E. I. Schlinger, E. S. Ross), in the California Academy of Sciences. The specific name is a noun in apposition after the Inca civilization.

Description. Carapace, sternum, legs, orange-yellow. Abdomen white. Carapace very high with dorsal grooves (Figs. 299, 300). Anterior eyes slightly larger than others, three-quarters diameter apart, almost touching laterals. Posterior median eyes a little more than their diameter apart, one diameter from laterals. Abdomen short, subtriangular, higher than long. Total length 2.9 mm. Carapace 0.80 mm long, 0.68 mm wide, 0.72 mm high. First femur 0.62 mm; patella and tibia 0.58 mm; metatarsus 0.28 mm; tarsus 0.21 mm. Second patella and tibia 0.52 mm; third 0.45 mm; fourth 0.55 mm.

Diagnosis. The distinctive palpus, with its unusual three-pronged sclerite on the tegulum (Fig. 301), separates this species from other *Dipocna*.

DIPOENA GRANULATA (Keyserling), new combination

Figures 302-303

Umfila granulata Keyserling, 1886, Die Spinnen Amerikas Theridiidae, 2(2): 257, pl. 20, fig. 305, ♂. Male holotype from Blumenau, [Santa Catarina], Brazil, in the British Museum, examined.

Carapace orange, legs yellow with ends of segments darker. Abdomen yellow with a black pattern (Fig. 302).

Comment. This species, probably a *Dipocna*, may be close to *Euryopsis spinigera*. Unlike *Euryopsis* species, it has two colulus setae.

Records. Brazil. Minas Gerais: Vicosia, 6 July 1933 (Hambleton, AMNH).

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